

# Regional River Gravel Management Plan Review



Bay of Plenty Regional Council  
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*Working with our communities for a better environment  
E mahi ngatahi e pai ake ai te taiao*

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# Executive summary

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A review of the operative Regional River Gravel Management Plan has been undertaken to fulfil the requirements of sections 35(2A) and 79 of the Resource Management Act 1991.

This report provides a summary of the evaluation process and makes recommendations for review of the Plan.

In evaluating the Regional River Gravel Management Plan, meetings with Bay of Plenty Regional Council staff and relevant organisations were held. Those organisations included tangata whenua, district/city councils, Department of Conservation, Eastern Region Fish and Game Council and the excavation industry.

The review has highlighted:

- That overall the Regional River Gravel Management Plan has performed well in meeting its purpose
- There is continued demand for river gravel
- Issues with the restrictions the rules place on the quantity of gravel permitted to be extracted and the extraction of gravel from wet areas of rivers
- Support for incorporating the Regional River Gravel Management Plan into the Regional Water and Land Plan
- There are some actions that could be progressed now and do not need to wait for the Regional River Gravel Management Plan to be changed. These actions include:
  - Increased consultation with tangata whenua and other relevant organisations prior to gravel extraction
  - Ensuring conditions of resource consents to extract gravel are appropriate and fully complied with



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# Part 1: Introduction

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The Regional River Gravel Management Plan (the Plan) became operative on 1 October 2001. The purpose of the Plan is to:

*Assist the Bay of Plenty Regional Council to carry out its functions in respect of:*

- *controlling the excavation of gravel from the beds of rivers and for soil conservation;*
- *maintenance of water quality;*
- *the management of water levels including the avoidance and mitigation of flood hazards;*
- *avoiding or mitigating adverse effects on: coastal processes, heritage values and the maintenance and enhancement of instream and riparian values;*

*thereby promoting the sustainable management of natural and physical resources.*

*Council must formally review the Plan no later than ten years from the date it became operative (section 79 of the Resource Management Act 1991 (RMA)). This report provides that review.*

## 1.1 Report purpose

The purpose of this report is to:

- 1) Fulfil the requirements to review the Plan (section 79 of the RMA), including advising if the Plan requires alteration.
- 2) Fulfil the requirements to monitor the efficiency and effectiveness of policies and methods of the Plan (section 35(2A) of the RMA).

## 1.2 Resource Management Act 1991 requirements

Section 79 of the RMA states:

- (1) *A local authority must commence a review of a provision of any of the following documents it has, if the provision has not been a subject of a proposed policy statement or plan, a review, or a change by the local authority during the previous 10 years:*
  - (a) *a regional policy statement;*
  - (b) *a regional plan;*
  - (c) *a district plan.*
- (2) *If, after reviewing the provision, the local authority considers that it requires alteration, the local authority must, in the manner set out in Part 1 of Schedule 1 and this Part, propose to alter the provision.*
- (3) *If, after reviewing the provision, the local authority considers that it does not require alteration, the local authority must still publicly notify the provision—*

- (a) *as if it were a change; and*
  - (b) *in the manner set out in Part 1 of Schedule 1 and this Part.*
- (4) *Without limiting subsection (1), a local authority may, at any time, commence a full review of any of the following documents it has:*
- (a) *a regional policy statement;*
  - (b) *a regional plan;*
  - (c) *a district plan.*
- (5) *In carrying out a review under subsection (4), the local authority must review all the sections of, and all the changes to, the policy statement or plan regardless of when the sections or changes became operative.*
- (6) *If, after reviewing the statement or plan under subsection (4), the local authority considers that it requires alteration, the local authority must alter the statement or plan in the manner set out in Part 1 of Schedule 1 and this Part.*
- (7) *If, after reviewing the statement or plan under subsection (4), the local authority considers that it does not require alteration, the local authority must still publicly notify the statement or plan—*
- (a) *as if it were a proposed policy statement or plan; and*
  - (b) *in the manner set out in Part 1 of Schedule 1 and this Part.*
- (8) *A provision of a policy statement or plan, or the policy statement or plan, as the case may be, does not cease to be operative because the provision, statement, or plan is due for review or is being reviewed under this section.*
- (9) *The obligations on a local authority under this section are in addition to its duty to monitor under section 35.*

In order to advise if the Plan requires alteration an evaluation of the efficiency and effectiveness of the provisions of the Plan is necessary. Section 35(2A) of the RMA requires that:

*Every local authority must, at intervals of not more than 5 years, compile and make available to the public a review of the results of its monitoring under subsection (2)(b).*

### 1.3 **Evaluation process**

The evaluation of the Plan was assisted by gaining comment from Bay of Plenty Regional Council (Council) staff with responsibilities for carrying it out. These included maori policy, consents, pollution prevention, water science and support and rivers and drainage staff. Consultation was also undertaken externally with relevant organisations. These organisations included tangata whenua, Department of Conservation (DOC), New Zealand Fish and Game Council – Eastern Region (NZF&G), district/city councils and the excavation industry. Detailed records of those consulted are included in Appendices 1 and 2.

Meetings held as part of this evaluation included:

- November 2010 – March 2011 - internal meetings with pollution prevention, māori policy, consents, water science and support and rivers and drainage staff to discuss the effectiveness of the Plan and identify future direction for the Plan.
- 29 November 2010 – met with NZF&G regarding the effectiveness of the Plan.
- 7 December 2010 – met with DOC regarding the effectiveness of the Plan.
- 13 December 2010 – met with Ngāti Manawa regarding the effectiveness of the Plan.
- December 2011 – phoned and discussed with excavation industry representatives regarding the effectiveness of the Plan.
- 18 January 2011 – met with Whakatāne District Council regarding effectiveness of the Plan.
- 3 February 2011 – presented to the Whakatāne District Council Iwi Liaison Committee (Representatives from Tūhoe, Ngāti Whare, Ngāti Manawa, Upokorehe, Ngāti Awa, Ngāti Rangitahi, Tūwharetoa) to inform them about the review of the Plan.
- 8 February 2011 – presented to the Ōpōtiki Coast Community Board (Representatives from Whakatōhea, Te Whānau a Apanui and Ngāi Tai iwi) to inform them about the review of the Plan.
- 22 March 2011 – met with Ngāti Awa regarding the effectiveness of the Plan.
- In addition, letters were sent to Te Waimana Kaaku and other district/city councils in the Bay of Plenty region inviting their input.

## 1.4 Council reports

Information to assist the review and evaluation of the Plan has been taken from Council technical reports and State of the Environment reports.

There is a comprehensive monitoring report that shows the monitoring results that confirm the effect of the plan provisions on gravel management. This report has assisted the evaluation of the Plan. It is entitled:

- Bay of Plenty Regional Council (2010/16) NERMN River and Stream Channel Monitoring Programme 1990 – 2010

The total volume of extracted material reported has been variable over the years, ranging from 241,000 m<sup>3</sup> (1994/95) to 86,740 m<sup>3</sup> (2009/10). The variability in gravel extraction may have been due to a number of reasons:

- The Plan became operative in 2001 and brought changes in gravel control requirements
- Major floods experienced in the eastern Bay of Plenty in July 1998 and July 2004
- Market demand



- Excavation industry discouraged by the consent processes
- Increased availability of gravel from land based quarries

## 1.5 Gravel Extraction

Due to the nature of the resource, predominantly all extraction of gravel under the Plan is carried out in the eastern Bay of Plenty. A summary of the extraction from within each major river in the region is provided below.

In the **Otara River**, with a small extraction rate and continued relatively substantial deposition on the floodplain and in the main channel, it is recommended that extraction should be increased to keep the river at its recommended bed level.

Following the considerable damage caused by the 1998 storm in the upper **Waioeka Catchment**, and the likelihood of an increased supply rate over the decade following the storm, gravel accumulations and bed level changes should be carefully monitored and managed. Visual inspection of the Waioeka Gorge suggests some aggradation.

In the **Waimana River**, further extractions should be limited currently in the upper reaches of the river, except where major build-ups are surveyed. It may however be necessary to use a selective combination of extraction and channel reshaping to stop the degrading processes currently occurring. Extraction should be suspended from the gorge until desirable bed levels have been established.

Although river bed levels on the **Upper Whakatāne River above Pekatahi** are on the rise, the previously set extraction limits of 20-30,000 m<sup>3</sup> per year from existing beaches should be adhered to until desirable bed levels have been reviewed and met. Some extra demand may be able to be met by widening the floodway where appropriate, after careful assessment of the gravel movement. Extraction should be suspended within the active channel over the reach from approximately 1 km upstream of the Waimana to Rūātoki Bridge.

In the **Lower Whakatāne River below Pekatahi** significant volume was lost during the July 2004 flood, especially in the lower sandy reaches around town. Extraction rates in this reach are fairly small.

Desirable bed levels for the **Ruarepuae Stream** were set in 1986, and surveys in recent years have shown that bed levels are near those desired. Extraction should now be limited to where gravel builds up excessively.

Continuous losses are occurring in the Lower **Rangitaiki River** through bank erosion and degradation, particularly during the July 2004 flood. There is little demand for extraction of gravel/sand from the Rangitaiki River at present. Gravel or sand extraction is not required, nor should it be encouraged anywhere along the surveyed part of the river at this stage (the heads of the hydro lakes are not surveyed). The exception is in the lower reaches, where morphological processes consequent from the effects of the Edgecumbe earthquake are likely to cause some degradation.

Estimates for the **Whirinaki River** indicate supplies are typically of the order of 23-24,000 m<sup>3</sup> per year. Extraction should generally be encouraged in the aggrading reaches.

Gravel extraction in the **Horomanga River** should be suspended in the upper part of the reach and instead directed to the lower reaches. In the lower reaches, the bed is

severely perched and significant extraction is required to avoid undue flooding or avulsion (migration of the river channel).

No extraction is currently carried out on the **Kopuriki Stream**, although resource consent applications have been made. Extraction should be encouraged in the lower reach of the stream where bed levels are aggrading and volume has been accumulating over the years.

Some extraction (of silt and/or sand) may be beneficial in some areas of the **Kaituna River** below Te Matai, if build-ups are excessive. However, the supply of sediment to the coast may be reduced by extraction.

No extraction is carried out in **Tarawera River** at present, and with the lowering of the whole bed it is recommended no sand extraction be allowed in the short to medium term.

When pressure to extract gravel increases, it may be necessary to redirect extractions more often. The environmental hazards group of the Council has moved to ensure that appropriate extraction on the Waioeka River continues and that extraction increases on the Otara River. Extraction on the Waimana and Whakatāne rivers has also been carefully directed to certain locations.

## 1.6 **Scope of Implementation Review**

For efficiency reasons, this review is only concerned with assessing Council's performance in carrying out the Plan. This mainly involves assessing 20 methods of implementation (refer Appendix 3) Council carries out in order to address the issues of gravel management.

Recommendations to review the provisions of the Plan will also need to reflect any relevant changes to the RMA, Council's functions, the emergence of new and significant regional issues and any relevant national instruments (National Policy Statements or National Environmental Standards).

## 1.7 **Report structure**

Section 3 presents a broad assessment of the:

- 1 Overall effectiveness of the Plan
- 2 Plan appropriateness
- 3 Plan efficiency

Appendix 3 provides a detailed assessment of:

- Each Anticipated Environmental Result (AER)
- Eacy Policy
- Each Method

Appendix 4 provides an assessment of the issues.

The detailed assessment of how well each AER has been achieved was undertaken within the context of the relevant objectives, policies, rules and other methods.

As a result of this assessment, the Plan provisions have been narrowed down to those that are still considered to be necessary for continued management of river gravel (these suggested changes are reflected in Appendices 3 and 4).

It also identifies those that:

- Still need to be given effect to
- Have not been effective and need changing to be effective
- Could be added

Section 4 provides recommendations to improve the effectiveness, appropriateness and efficiency of the Plan.

## Part 2: Evaluation

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### 2.1 Introduction

This section of the report evaluates the effectiveness of the Plan by making a broad assessment of the:

- Overall effectiveness of the Plan
- Plan appropriateness
- Plan efficiency

### 2.2 Overall effectiveness

Overall effectiveness is a measure of how successful the Plan was in achieving its overall outcome. Effectiveness is described as “high”, “medium” or “low”.

The overall outcome for the Plan is:

- *to manage the excavation of gravel from the beds of rivers in a way that allows for the reduction of flooding and erosion;*
- *provides aggregate for construction and roading activities;*
- *controls any adverse effects of excavation.*

The Plan has been highly effective at achieving the overall outcome most of the time. When the river beds have been too high or the waterway congested the Plan has allowed extraction to reduce the likelihood of flooding. When the beds have been too low the Plan has restricted extraction of gravel to reduce erosion. There have been times when Council staff have wished to remove gravel in an emergency, or when silt has built up under a bridge, but the Plan has not allowed for extraction as promptly as would be desired.

Gravel continues to be extracted for construction and roading purposes. Although there is a demand Council staff and operators acknowledge that the Plan makes access to gravel overly restrictive resulting in aggradation of certain rivers and/or operators taking gravel from quarries instead.

The Plan has assisted in controlling the adverse effects of excavation. The adverse effects include damage of habitat, ecology, amenity and heritage. Plan controls have provided careful consideration and protection of these values.

The objectives, policies and methods have worked successfully to achieve the overall outcome. To judge the effectiveness is to assess the AERs. Each AER has been assessed (refer Appendix 3) in its chapter context to find out whether and how they have contributed to meeting this overall outcome. Each AER has been given a rating of “met”, “mainly met” or “not met” with comments justifying the rating. The majority of AERs have been met.

## 2.2.1 Summary of main feedback collected from Council staff and relevant organisations

This section provides a summary of the main feedback gained from internal staff and relevant organisations. Detailed records of this feedback is recorded in Appendix 2.

### (a) *Ownership of gravel*

Certain commenters discussed ownership of river gravel. Ōpōtiki District Council suggested that it would be helpful for district council staff and contractors if the Plan determined who owned the gravel. Often, landowners believe that they own the gravel in the river if it is next to their property. Contractors often pay royalties to landowners for access to the gravel; however some landowners are charging royalties for the actual gravel.

Ngāti Awa highlighted that iwi and hapū have never ceded authority to anybody else for the beds of rivers nor the water column. They emphasised that this is a key point when applying royalties in either a private scheme or a statutory function scenario.

### (b) *The impact of gravel extraction on drinking water quality*

Concern was raised about the impact of gravel extraction on drinking water quality. Tauranga City Council commented that abstraction of gravel upstream of Drinking Water Supply Intakes will result in significant deterioration in water quality being abstracted and could result in shortages of supply due to the inability of the treatment plants to treat such water. For this reason they recommended that gravel abstraction in such streams should not be permitted.

Ngāti Awa recommended that the location of utilities infrastructure, such as water intakes for a town's water supply, be clearly identified to consent officers assessing consents for gravel extraction. They stressed that failure to assess the proximity of these structures to gravel extraction sites, can create issues such as sediment entering drinking water or damaging costly filtration equipment.

### (c) *Having regard to statutory acknowledgements and working more closely with tangata whenua*

Many commenters highlighted the significance of statutory acknowledgements, arising from Treaty of Waitangi settlement legislation, when making resource consent decisions about gravel management activities.

Iwi that currently have statutory acknowledgements in the Bay of Plenty region are Ngāti Awa, Ngāti Tūwharetoa, Te Arawa and affiliate Te Arawa iwi and hapū. Statutory acknowledgements are expected in the near future for Ngāti Whare and Ngāti Manawa (in the Whakatāne district).

DOC pointed out that certain iwi have settled in the region but these settlements are not recognised in the Plan.

Ngāti Awa highlighted the statutory acknowledgements of its relationships with the Whakatāne (Ohinemataroa), Tarawera and Rangitaiki rivers.

Ngāti Manawa reminded Council that the Plan should give effect to the Rangitaiki River Forum/Deed of Settlement when this is finalised.

Besides recognition of statutory acknowledgements, some commenters requested greater involvement of tangata whenua in gravel management activities. Ngāti Awa requested that Council build an understanding of the relevant tangata whenua along the rivers used for gravel extraction. They also encouraged Council to develop working relationships and foster iwi capacity to engage and respond to the planning activities undertaken by Council staff. This would help tangata whenua to understand the reasons for gravel management activities and may also result in increased support.

Council rivers and drainage staff suggested a greater effort be made to work more closely with tangata whenua when managing gravel to ensure their values are taken into account. Although Council cannot require consultation, they can publicly notify applications and assess effects on affected parties.

It was suggested by Council pollution prevention staff that one way of improving engagement with tangata whenua was to work more closely with Council māori policy staff. This is because māori policy staff have a sound understanding of how best to consult tangata whenua.

*(d) Avoiding processing duplicate consent applications*

Whakatāne District Council requested that the Plan should prevent both regional and district councils have to process duplicate consent applications, for river gravel related activities that are subject to both district and regional controls. They preferred that district council current functions should be incorporated into the Plan and considered in regional consents. These should include those effects usually considered by district council such as traffic, noise, hours of operation, amenity and public access. A previous precedent for reducing this duplication was the agreement between Whakatāne District Council and Council in relation to earthworks in riparian margins.

*(e) Extracting gravel from the wet areas of rivers*

Extracting gravel from the wet areas of rivers is currently a discretionary activity in the Plan. A number of comments were made about making this activity less restrictive, and permitting gravel to be taken from wet areas. Waitotahi Contractors Ltd commented that this type of activity should be a permitted activity because it would allow the excavation companies to get more gravel from one pit/location at one time. This would be more convenient and efficient. It would also allow access to a higher quality gravel.

Te Whānau a Apanui made the comment that taking gravel from wet areas of the river is supported because it helps reduce flooding, provided that the Council is certain that there will be no adverse effects on the environment.

Rivers and drainage staff also want to remove gravel from the wet areas of rivers. Their key reasons for this include wanting to extract more gravel to avoid aggradation and that excavating gravel from the wet areas of the river can be managed, so as to minimise the adverse effects on the environment.

Both DOC and NZF&G would have concerns with expanding the provisions to extract gravel from the wet areas. NZF&G commented that it may be possible but particular regard would need to be given to any adverse effects on fish.

(f) *Aggradation*

Comments were also made about the build-up of gravel in rivers. Ōpōtiki District Council said that there is widespread criticism of the Council's lack of gravel removal and the concern generally for rising bed levels in rivers (in particular the Waioeka). The rules of the Plan may be causing difficulties in removing gravel. This matter has been previously expressed at the Waioeka-Otara Rivers stakeholders meetings as it affects the Opotiki district and flood protection.

There are river areas upstream that TRACKS Concrete (2002) Ltd have identified where gravel could be extracted that would help avoid adverse effects on the lower stream.

One key reason for aggradation may be the lack of applications for resource consent to extract gravel being made. According to commenters like Wilson Bros Earthmovers Ltd, a key reason for this has been the difficulty and inconvenience of the processes required to be followed to apply for consent.

Rivers and drainage staff also acknowledged this issue, highlighting that contractors are finding the consent process too difficult (due to consent needed from affected parties and consent time delays) so that they prefer to take gravel from quarries instead.

Certain excavation companies commented that it is easier to have Council apply for the resource consent on their behalf. This arrangement has worked well because it is convenient, quick and economical.

(g) *Administration fee charged for extracting gravel*

Certain excavation companies discussed the \$0.90/m<sup>3</sup> administration fee charged by Council for extracting gravel. This administration fee contributes to the cost of monitoring the activity including undertaking surveying and analysis of river cross sections. Kāingaroa Roding Contractors said that that is currently accepted however, if the fee were to be increased they may not continue this activity because gravel extraction is a minor activity in their greater work profile.

Waiotahi Contractors Ltd said that the administration should be reduced rather than increased because the excavation industry is helping the environment by extracting gravel. If costs do increase, the excavation industry can access cheaper gravel from quarries.

Waiotahi Contractors Ltd further commented that the administration fee should only be paid on sales of gravel out the gate. This is because approximately 30% of the amount of gravel they extract is waste (silt) by the time they have returned and sorted it at their Processing Plant.

(h) *Better protection of fish and bird nesting sites*

Ngāti Manawa made the comment that the Plan should address issues for tuna which are being impacted by gravel extraction. In their opinion there does not appear to be any protection for native fish in the Plan when dealing with gravel extractions or river maintenance such as rock banks. They suggested that practises such as inserting large hollow tubes in rock banks, should be carried out to provide a habitat for tuna to rest (i.e. where Council has built a rock wall along a river bank).

New Zealand Fish and Game – Eastern Region commented that Schedule 1D (Important Habitats of Trout) of the Regional Water and Land Plan (RWLP) should be used in the Plan because it provides more comprehensive protection of trout.

With regards to bird nesting sites, DOC requested that the Plan provide greater protection of these values. For example, these sites could be recognised in a schedule in the Plan. Since the RWLP was made operative, DOC has identified more significant locations for bird nesting and these need to be taken into account.

(i) *Including the Plan in the Regional Water and Land Plan*

Many commenters would like to incorporate the Plan into the RWLP. The key reasons for this include making it less confusing with fewer regional plans and making it more convenient and simpler for the plan user when determining whether the activity they wish to undertake is permitted or requires resource consent.

## 2.3 Plan appropriateness

An evaluation of the Plan appropriateness involves assessing whether:

- The provisions of the plan continue to focus on the right issues and
- The provisions remain valid and relevant.

Comments specific to individual Plan provisions are presented in a matrix format in Appendices 3 and 4. In summary:

The issues are generally still relevant to this day and therefore should be retained. However, they could be streamlined further and grouped more logically. The recommended changes to the issues are shown in Appendix 4. There continues to be:

- Under-excavation of gravel, resulting in bed aggradation reduces channel flood capacity and adversely effects productive farmland, stopbanks, riverbed stability, structures and other instream assets and values.
- Over-excavation of gravel, causing channel instability and adversely affecting aquatic and riparian ecosystems and habitats.
- Excessive removal of gravel from a river, aggravating coastal erosion on the down drift side of a river mouth.
- The significant costs incurred by gravel removal for flood, erosion control and drainage purposes.
- Difficulty of access to remove gravel for some river reaches.
- The impact of gravel excavation operations on water quality.
- Increased risk of adverse effects from natural hazards arising from both over and under-excavation of gravel.
- Increased risk of bank erosion and flooding from excessive gravel build-up.



- Coastal erosion processes aggravated by over-excavation of gravel.
- The impact of excavation operations on:
  - (a) Diversity of in-stream habitat for fish and other aquatic life.
  - (b) Fish spawning habitat through alteration of meander patterns and the run riffle-pool structure of rivers.
  - (c) Suspended sediment load and sequent effects on spawning sites, fish migration and a reduction of aquatic plants.
- The impact gravel excavation has on sites and values having cultural and heritage significance.
- The need to recognise and protect cultural and heritage sites and values.
- The lack of a register of sites that could be adversely affected by gravel excavation activities and that have cultural or heritage significance.
- Arbitrary administrative boundaries and ineffective consultation can obstruct the purpose of the Resource Management Act 1991, namely sustainable management.
- The lack of monitoring of environmental effects of gravel excavation.
- The lack of reliable historical data for gravel management decision-making.
- Unreliability of past excavation records obtained from operators.
- Operator's records of volumes of excavated gravel based on volumes sold do not give an adequate measure of volumes removed from the river.

Concerns with the Plan include:

- A great deal of background and introductory text to gravel management that is unnecessary. Also, if the Plan is to be incorporated into the RWLP much of the existing information would then become repetitive.
- A few provisions no longer being relevant. For example, at the time the Plan was written there was a desire to develop guidelines to assist interpretation of the Plan. These guidelines have since been completed and therefore the method is no longer relevant. Other provisions that are no longer relevant or require amending are discussed in Appendices 3 and 4.
- The absence of non-regulatory provisions to improve public awareness of the Plan rules/requirements.

## 2.4 Plan efficiency

Plan efficiency is a measure of the benefits (social, economic and environmental) relative to its costs (social, economic and environmental). Efficiency is then evaluated as low, medium or high. The higher the ratio is between these benefits and costs the more efficient the Plan is.

To keep the scale of the efficiency evaluation manageable this analysis of the policy/methods is done at an overview level in the body of the report and individually in Appendix 3.

Costs and benefits of the policy/methods	Identified as:
Environmental	<p>Benefits: reduces flooding and erosion of land. Protects aquatic ecosystems, riparian values and coastal environment. Maintains water quality. Conserves soil.</p> <p>Costs: none.</p>
Social	<p>Benefits: protects heritage, recreational and cultural values.</p> <p>Costs: none.</p>
Economic	<p>Benefits: provides aggregate for construction and roading activities. Protects productive farm land from flooding and erosion.</p> <p>Costs: consent costs. Costs to gain approval to gravel from affected parties/landowners. Costs to access gravel (e.g. difficulty in removing gravel from some river reaches). Monitoring costs (e.g. Natural Environmental Regional Monitoring Network reporting (NERMN)). Consent compliance and enforcement costs. Consent administration costs. Plan administration costs (e.g. developing and defending plan provisions). Constrained productivity (e.g. consent holders preventing others from accessing the resource or users choosing to get gravel from quarries instead because it is more convenient and not limited).</p>

Given the above the efficiency of the Plan is evaluated as high. There are significant environmental benefits since the introduction of the Plan such as reducing flooding and erosion. Social benefits include protection of heritage values. An example of an economic benefit is the aggregate provided for roading.

The only perceived costs are economic costs. Of most concern is the constrained productivity caused by the Plan. Council is finding that the excavation industry sometimes finds it more convenient to access gravel from quarries. This can result in a build up of gravel in the river. To make this more efficient the Plan controls must make access to gravel less restrictive for the operator and/or provide greater incentive to take gravel from rivers instead of elsewhere.

#### *The Policies*

The policies have generally been well met. These policies have been mainly achieved through the Plan rules, guidelines, Councils assessment of environmental effects through consent applications or consent conditions.

The policies also continue to be an effective and efficient means of achieving the objectives and addressing the issues. For example, the issue of under excavation of gravel is competently addressed through Policy 1 course of action to balance gravel excavation rates with natural replenishment.

Like much of the Plan there is an opportunity to streamline these policies to reduce unnecessary wording and make the gravel provisions more focused.

### *The Rules*

The rules are a type of method that have generally proven to be effective and efficient at carrying out the policies. However there are some concerns, mainly by Council rivers and drainage staff, about the wet area and quantity restrictions in Rule 2 – Permitted activity to excavate, remove and place gravel.

The conditions of Rule 2 are considered too restrictive for environmental hazards staff and contractors to operate within. Condition (2) allows for the excavation and placement of no more than 7,500 cubic metres of gravel per year from the bed of a river. This amount is not considered sufficient for the purposes of achieving desired river meander, location, alignment and bed grade therefore consent is often required to be applied for in order to increase the amount.

Condition (5) of Rule 2 only permits gravel to be excavated from, or placed on dry gravel beaches that are more than 0.3 metres above the water level in the adjoining river at the time. The focusing of excavation on the dry parts has reduced the quantity of gravel available from any one site by Council or contractors.

The quantity and wet area restrictions were originally developed to permit negligible adverse effects on the environment such as water quality and habitat and also eliminate unnecessary consent processing and administration costs. The excavation level was thought necessary to balance excavation rates with natural replenishment.

However, overtime it has been found that the quantity is not a good measurement of sustainability or environmental effects – each reach of river or stream is unique and may or may not require extraction or can sustain any significant extraction. This is assessed instead through the allocation process. It has also been found that excavating gravel from the wet areas of the river can be managed so as to minimise the adverse effects on the environment.

## Part 3: Conclusion and recommendations

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### 3.1 Conclusion

The Plan has performed well in achieving the overall outcome:

*to manage the excavation of gravel from the beds of rivers in a way that allows for the reduction of flooding and erosion, provides aggregate for construction and roading activities, and controls any adverse effects of excavation.*

The review has highlighted the following key issues:

- The quantity of gravel permitted to be excavated under Rule 2 of the Plan is too restrictive.
- The control placed on the Council rivers and drainage staff or contractors to only remove gravel from dry areas of rivers only outside the major flood protection schemes is too restrictive.
- Planning documents for river gravel management are more numerous and complex than they need to be.
- That relevant organisations seek greater involvement in the planning of river gravel management activities.

Other matters also raised included ownership of gravel, the impact of gravel extraction on drinking water quality, having regard to statutory acknowledgements and working more closely with tangata whenua, avoiding processing duplicate consent applications for river gravel management activities, aggradation and better protection of tuna and significant bird nesting sites.

### 3.2 Recommendations

*The key recommendations to resolve the above issues are:*

- That the Plan is incorporated into the RWLP.
- Any references to the Regional Land Management Plan (RLMP) are changed to the operative RWLP.
- Greater opportunities are provided to extract higher quality gravel.

*Provisions to be carried forward into the RWLP:*

- Consolidate and simplify provisions.
- The conditions of Rule 2 of the Plan are changed to make the rule less restrictive for Council staff and contractors to operate within. This may include changing the conditions of Rule 2 to allow removal of gravel from wet areas outside of the major flood protection schemes, while continuing to avoid/mitigate any adverse effects on the riverine environment.
- All rules (except make above suggested amendments to Rule 2).
- Assessment criteria for consent applications.

*Provisions/parts that are not carried forward into the RWLP include:*

- The parts of the Plan that deal with much of the historic and explanatory text or are already addressed in the RWLP.
- The Section 32 analysis of the provisions is kept separate from the RWLP.

*Additional provisions are required that cover:*

- Education:
  - (a) Raise awareness of the Plans requirements (In particular the farming community and excavation industry).
  - (b) Provide information to relevant organisations about the amounts of river gravel available for extraction.
  - (c) Work with relevant organisations to plan river gravel extraction.

## References

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Waugh, R (2009a) Gravel Management Review. Internal Regional Council Memorandum to Executive Leadership Team. Dated 1 December 2009.

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# Appendices

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# Appendix 1 - List of relevant organisations invited to offer feedback

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Invitation letters, meetings or email/phone contact was made with the following organisations:

**1 Department of Conservation**

**2 District/city councils**

Ōpōtiki District Council  
Kawerau District Council  
Rotorua District Council  
Taupo District Council  
Tauranga City Council  
Western Bay of Plenty District Council  
Whakatāne District Council

**3 Excavation Industry**

Eastern Bay Concrete (2003) Ltd  
Kāingaroa Roading Contractors Ltd  
Timberlands Ltd  
TRACKS Concrete (2002) Ltd  
Tūhoe Putaiao Trust  
Waiotahi Contractors Ltd  
Wilson Bros Earthmovers Ltd

**4 New Zealand Fish and Game – Eastern Region**

**5 Tangata Whenua**

Ngāi Tai  
Ngāti Awa  
Ngāti Awa ki Rangitaiki  
Ngāti Awa ki Whakatāne  
Ngāti Manawa  
Ngāti Rangitihī  
Ngāti Whare  
Te Waimana Kaaku  
Te Whānau a Apanui  
Tūhoe East  
Tūhoe Establishment Trust  
Tūhoe ki Manawaru  
Tūhoe West  
Tūwharetoa  
Upokorehe  
Whakatōhea



## Appendix 2 – Main feedback collected from council staff and relevant organisations

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### Tangata Whenua

#### Ngāti Awa

##### ***Beverley Hughes (Manager, Environment Ngāti Awa) and Ray Thompson (East Coast Environmental Limited)***

- Biosecurity – the Plan should ensure that gravel being transported for use throughout the region is not harbouring plant pests as this will contribute to the spread of those pests.
- Natural Environment Regional Monitoring Network – Ngāti Awa is concerned that aggradation in the river is sourced from the upper catchment but there is uncertainty about whether, or the extent to which Council monitors the upper catchment where erosion of streams and river banks would be contributing to the gravel aggradation in the lower catchment. It is noted that aggradation and the lower catchment feature significantly in Section 4.3 of the Plan, the upper catchment and erosion and soil conservation does not feature at all. This is a significant oversight and Council should be encouraged to undertake monitoring as well as cross section monitoring and surveying in the upper reaches which may provide a methodology for forecasting river maintenance works, or even avoiding them in the lower catchment (in some cases).
- A river is not a mine – it is a lively and dynamic system that many life - forms rely upon for survival and sustenance. To Ngāti Awa river is taonga tuku iho (taonga handed down from previous generations). It is only in recent times that rivers have become subject to gravel mining and income bearing activities. A balance needs to be found between the use of rivers and the resource it provides.
- Expired consents and use of section 124 of the RMA – Ngāti Awa understands there are a number of situations like this in the very few rivers in the region from which gravel is extracted. Council is encouraged to:
  - Understand the number of Section 124 activities in play in every river.
  - Actively require those extractors to complete the consenting process.
  - Keep running records of a) volumes of gravel extracted from each river and b) volume of gravel sold through the extractors gate – so as to make a distinction between these two processes and the volumes they represent, the results of which must be known there at council as, like abstraction, it is Council that regulates these activities while also operating them in a flood protection, soil conservation and river management context. Understanding the cumulative effects of gravel extraction and gravel management will be key to ongoing management of rivers.
- Planning Instruments – Although Ngāti Awa are yet to read the Plan thoroughly, the Plan is considered to have merit.
  - Provision for fish passage is strongly supported. Consideration of the fish passage inventions of Mr Kelly Hughes and Matt Bloxham (Council Environmental Scientist) are promoted. These may become routinely used by extractors and river managers alike.

- Identification of the location of utilities infrastructure such as the newly installed water intake for the Whakatane towns water supply must, in our view, be clearly identified to consents officers assessing consents for gravel extraction in these areas. Failure to assess the proximity of these structures to proposed or existing gravel extraction sites can create issues such as sediment entering drinking water or damaging costly filtration plant and equipment.
- Destination for Planning Instruments – At this stage the RWLP is considered to be an obvious destination for the Plan.
- It should not be optional to consult relevant iwi authority, hapū or whānau under ‘Table 1 – Consultation Required’. This table should be amended by deleting ‘or’ from row a.
- Iwi and their hapū have never ceded authority to anyone to the beds of rivers, the water column nor the space above the water column. This is a key point when applying royalties in either a private scheme or a statutory function scenario. Consistency is the aim, but distinctions between a) gravel being moved around in the river for river management purposes as compared with b) the extraction of gravel for commercial purposes is also necessary as one type provides for mauri enhancement of a river while the other is for an entirely different purpose which may, if unchecked, significantly adversely affect the other purpose.

## **Te Runanga o Ngāti Manawa**

### ***Robert Jenner (Trustee) and Maramena Vercoe (General Manager/Negotiations)***

- The Plan should give effect to the Rangitaiki River Forum/Deed of Settlement.
- The Plan does not provide protection for the habitat of tuna as a food source and other native fish species.
- Section 26 (Appendix 6: Iwi Management Plans) of the Plan does not recognise the Ngāti Manawa Iwi Management Plan.
- There should be no excavation of gravel where ecosystems and habitats with values are present.
- Ngāti Manawa would like to be involved with monitoring certain consents to check that tangata whenua values are being protected.
- Ngāti Manawa are not consulted often enough about gravel management activities. They are often only ever notified that the activity is taking place (e.g. drainage consent for Trustpower on the Rangitāiki).
- Ngāti Manawa would like to merge the Plan into the RWLP. This will ensure a holistic view of the impacts on the environment.

## **Tūhoe Putaiao Trust**

### ***Paki Nikora (Operations Manager)***

- The main reason for gravel management is to reduce flooding.
- Gravel is choking up the flood plains. This is being worsened by climate change.

- Tūhoe Putaiao Trust now have resource consent to extract gravel from the upper parts of Whakatane River. In the past Waiotahi Contractors Ltd held this consent. Te Waimana Kaaku have consent for the Waimana river.
- Gravel should not be taken from quarries. These are considered maunga with cultural value to tangata whenua. Instead the gravel should be taken from rivers. Taking gravel from rivers to manage flooding and benefit the ratepayer should be more important than taking gravel from quarries.
- Tūhoe Putaiao Trust often disagree with Councils practises of stabilising river banks. For example, Council often builds the rock walls too low or use willows in trenches instead of rock walls. These practices often result in flooding and loss of Tūhoe Putaiao Trusts' land. Although they have recommended alternative practises to the rivers and drainage staff at Council, they have not listened.
- It is accepted that Council must work within a budget to complete rivers works. However, it would be preferable to see more effort, time and money put into correcting one location rather than a series of quick fix practices that are not effective in reducing flooding.
- Council should control the market supply and demand of gravel rather than allowing the excavation companies to determine this and the ability to get the best deal from Te Waimana Kaaku or Tūhoe Putaiao Trust. Excavation companies should be removed from the process and Council should only deal with Tūhoe Putaiao Trust or Te Waimana Kaaku.

## **Ōpōtiki Coast Community Board**

### ***Jim Finlay – Engineering and Services Manager (Opotiki District Council)***

- Currently excavation contractors are negotiating with local iwi to cross land to access the river for extractions. How will the Plan manage the issue of ownership of gravel? It would be helpful for district council staff and contractors if the Plan determined who owned the gravel. Often landowners believe that they own the gravel in the river if it is next to their property. Contractors often pay royalties to landowners for access to the gravel; however some landowners are charging royalties for the actual gravel.
- In some situations different iwi charge a different fee for others to access river gravel. For example, Ngāitai iwi charge \$9.00/m<sup>3</sup> while Te Whānau a Apanui charge \$2.00/m<sup>3</sup>. It would be easier for district councils and contractors if there was a set fee across the region.
- The Otara and Waioeka rivers are aggrading so it would be helpful if a channel was dug to remove gravel.

### ***Eddie Matchitt – Te Whānau a Apanui***

- A safe gravel extraction plan is required for each river because each river has different characteristics.
- Taking gravel from wet areas of the river is supported because it helps reduce flooding, provided that the Council is certain that there will be no adverse effects on the environment.
- It is important that when local roads are being created or fixed, that the gravel should come from local rivers and not trucked in from out of the area. This would be more environmentally efficient as well as providing locals with an opportunity to get royalties.

### ***Haki McRoberts - Whakatōhea***

- Excavating gravel from wet areas of a river was preferred over taking gravel from dry areas only. Roading contractors would get frustrated at having to 'pothole' in the dry area. It also takes a lot longer to extract.

### **Whakatāne District Council Iwi Liaison Committee**

#### ***Paki Te Pou – Ngāi Tūhoe ki Waimana***

- As each property extends to the middle of the river, land owners could potentially make money from gravel extractions.

#### ***Henry Pryor – Ngāti Rangitīhi***

- Sometimes when the gravel is removed from the river, the river begins to encroach on the land as the extraction affects the river flow. This is particularly a problem in the Rangitaiki River upstream from Te Teko (Whites Bridge).
- The Plan should address issues for tuna which are being impacted by gravel extraction.

#### ***Robert Jenner – Ngāti Manawa***

- There does not appear to be any protection for native fish in the Plan when dealing with gravel extractions or river maintenance such as rock banks. Large hollow tubes should be inserted in rock banks to provide a habitat for tuna to rest (i.e. where Council has built a rock wall along a river bank).

#### ***Joe Mason – Ngāti Awa ki Tai***

- Section 33 (Transfer of Powers) of the RMA has been discussed with Council in the past. It may be worthwhile addressing through the Plan review.

### **Department of Conservation**

#### ***Helen Neale (Community Relations Officer – Planner) and Fiona Hennessey (Programme Manager – Community Relations)***

- The Plan should promote a more proactive approach towards informing relevant organisations like DOC about planned gravel management activities besides those that are consented.
- The DOC would like to be consulted about any gravel extraction at key sites prior to any activity taking place during the spring/summer period rather than just being advised that work is to take place.
- Sites with significant bird nesting values:
  - Besides relying upon DOC to inform the Council about sites with significant bird nesting values, that the Plan also provides greater protection of these values. For example, these sites could be recognised in a schedule in the Plan.
  - September to December are the main months for bird nesting. Ideally no gravel extraction would take place in these months but DOC also appreciates that this may not be realistic.

- Since the RWLP was made operative DOC has identified more significant locations for bird nesting and these need to be taken into account.
  - Schedule 1B (Habitats of Threatened Indigenous Flora and Fauna) of the RWLP does assist in identifying and protecting significant bird nesting sites but it would need to be updated for a number of sites. Schedule 1B of the RWLP also does not include species that are not threatened such as the variable oystercatcher which is found on the coast, at river mouths and at beaches.
  - It may be more appropriate to have a separate schedule that specifically addresses gravel extraction areas than rely upon Schedule 1B of the RWLP. The main areas of interest to DOC in relation to bird species include rivermouths, spits and beaches up to 1 km inland. Islands and dry margins are particularly important.
- Figure 1 (p. 16) in the Plan, showing river gravel extraction consent locations, needs to be updated. It would also be useful if the map and/or plan showed projected extraction quantities from the rivers.
  - The resource consent conditions are well written.
  - Many iwi have settled but these settlements are not recognised in the Plan.
  - The assessment criteria for consent applications (p.65) should make it clearer to consider birds. The word 'wildlife' does not adequately highlight this.
  - The Department of Conservation would have concerns with expanding the provisions to allow gravel extraction from the wet areas of rivers.

## **New Zealand Fish and Game – Eastern Region**

### ***Eben Herbert (Fish and Game Officer)***

- Generally the Plan is effective.
- There have been some problems with machinery being unnecessarily active in certain rivers during the fish spawning season. These tend to be consented activities so perhaps the issue lies more with compliance.
- The consent conditions appear to be well written and have regard to fish.
- In support of the Plan being incorporated into the RWLP. Schedule 17 of the Plan is already covered more comprehensively by Schedule 1D (Important Habitats of Trout) of the RWLP.
- New Zealand Fish and Game would prefer to have more input into channelization of rivers. They currently do not have much input into this process.
- New Zealand Fish and Game would like to have input if the wet area restrictions are removed. Wet area excavations can be done but regard must be given to the impact on fish.



## **Internal Council staff**

### ***Rivers and drainage***

- Recommend:
  - the existing provisions contained within the Plan are included as a separate section of the RWLP through a plan change. The Plan standing alone as it does currently is confusing for outside parties.
  - the Plan provisions are expanded to remove the quantity and wet area restrictions that currently exist for rivers outside the major flood protection schemes.
  - Following the above, the Plan is withdrawn.
- Contractors are finding the consent process too laborious and difficult (due to consent needed from affected parties and consent time delays) so that they prefer to take gravel from quarries instead. For Council this is a problem because gravel is aggrading in certain rivers.
- Rivers and drainage staff want to remove gravel from the wet parts of rivers outside of river schemes but the Plan does not permit them to do this. They also want permission under Rule 2 of the Plan to remove more than is currently allowed.
- Under Rule 2 of the Plan bridges or other assets can become silted up but Council is unable to remove the gravel under the Plan or RWLP (river schemes). Rivers and drainage staff must extract as emergency works under the RMA.
- The Rule 1 conditions of the Plan are appropriate for most people that work under it.
- Rule 10.5.8.2 (Soil Conservation Activities) and 10.5.8.3 (Flood Control Activities) of the RLMP were not adequately replaced by the RWLP rules to extract gravel. The RWLP also states that it doesn't address extraction of gravel.
- Council needs to work more closely with tangata whenua when managing gravel to ensure their values are taken into account. Currently the consents team have the discretion and the rules require notification but this could still be strengthened.
- Treaty Settlements may influence the Plan controls and gravel extraction in the future.

### ***Consents***

- The rules are straightforward and easy to understand/interpret when either an activity is permitted or consent is required.
- Section 16 (Assessment Criteria for Consent Applications) of the Plan is useful because it provides consents staff with guidance.
- Incorporation of the Plan into the RWLP and removing the RLMP references from the Plan is supported.
- Sometimes there may be conflict with the rules in the Plan with the rules in the RWLP. It is important that the plans are consistent.

- It may be worthwhile considering removing the quantities specified in the Plan rules and allowing the permitted activity conditions to guide the activity, should these not be able to be complied with, then consent would be required (this is suggested because the quantity is not so much the concern but rather the effects are).
- Council, on a few occasions have experienced an issue with certain consent holders preventing others from accessing gravel, even though they are not using a lot of the resource themselves.
- There is a lot of unnecessary content in the Plan that could be removed.
- Gravel extraction generally has minor adverse effects if carried out appropriately. For this reason:
  - The rules should be simplified to enable easier access and use of gravel
  - There should be no restrictions on the quantity of gravel permitted to be extracted
  - There should be a set of standard conditions as a permitted activity
  - The Council rivers and drainage staff should be the controlling authority and enforcement should remain with the pollution prevention staff.

### ***Māori policy***

- The provisions in the Plan should be amended so that there is greater input from Council māori policy staff in gravel management activities.
- Tangata whenua are likely to want the consent process to remain as an important means of requiring the applicant to consult and engage with tangata whenua.
- Some iwi/hapū support gravel extraction but other iwi/hapū oppose it.

### ***Pollution prevention***

- The Plan is being implemented but it has taken time to do this effectively. This has been helped by rivers and drainage staff who usually issue approval where and when to take gravel have become better informed about the Plan requirements.
- There is still a greater need for staff to involve/inform maori policy staff about gravel extraction. Greater involvement of maori policy staff may also lead to consultation of the relevant tangata whenua e.g. including hapu/whanau as well instead of only the iwi authority.
- Better communication and transparency is needed between environmental hazards, consents and pollution prevention staff of Council.
- The Plan needs to be changed to set a clear process and conditions for giving approval.

### ***Water science and support***

- The Regional River Gravel Management Guidelines (RGMG) need changing to better ensure gravel extraction activities do not adversely impact on freshwater ecosystems and freshwater habitat. Generally while the intent of the guidelines is to minimise adverse impacts on ecological values, the Plan provides little guidance on how this

might be achieved. Nor generally is information given on what the critical issues are for New Zealand freshwater fisheries.

- Extraction of bed material in excess of natural replenishment by upstream transport causes bed depletion:
  - The RGMG highlights well some of the erosion impacts that arise when excessive gravel is drawn from areas where insufficient natural replenishment occurs. The RGMG also provides a useful diagram showing in broad terms which cross sections can most easily sustain gravel extraction without inducing erosion of increasing flood risk.
  - It would be useful for the RGMG to highlight some of the negative ecological impacts from removing substrate from the wetted part of the bed. For example, gravel removal from bars may cause downstream bar erosion if they receive less bed material than occurs naturally. This may be critical for trout if gravel delivery to trout spawning areas is reduced downstream. The RGMG talks about the need to maintain bank stability, but maintaining bed stability may be just as important in some instances. This is because gravel/cobble substrate particularly those with a high degree of embeddedness armours the bed stabilising bank and bars and preventing excessive scour and sediment movement. As the RGMG rightfully points out natural substrate replenishment rates are episodic hence estimating excavation rates may need to be revised after spates.
  - Recommendation: Gravel removal quantities (and gravel recruitment and accumulation rates) should be carefully controlled to avoid extended impacts on channel morphology and on anadromous and diadromous fish habitat downstream.
- Gravel extraction increases suspended sediment, sediment transport, water turbidity and gravel siltation:
  - High silt loads may, by blocking the interstices in clean substrate remove habitat for infauna (animals living within the bed including tuna elvers), smother sedentary aquatic fauna including trout redds (trout lay their eggs in clean gravel) and clog the gills of fish. The RGMG goes part way towards raising this as an issue by warning against conducting instream works during fish spawning and migration periods. This is helpful because juvenile native fish and (as stated above) trout redds are the most susceptible to high suspended sediment levels.
  - Recommendation: The removal of gravel from the wetted channel should as a rule be avoided where the activity leads to the frequent resuspension and redistribution of fine sediment. This is because even native fish and invertebrates with some degree of tolerance to temporarily elevated suspended sediment levels stand to be negatively effected if the releases are continual and (in the case of infauna, including trout redds) if the suspended sediment transport and settlement leads to the clogging and inundation of streambed habitat with sediment.
- Bed degradation changes to morphology of the channel
  - Gravel extraction can cause the active channel to divert through the gravel removal site during high Presently the RGMG requires that a set distance is maintained between the works and the stream flow and the placement of other sediment bearing substrates near the active channel is minimised. flows. As well as increasing potential for upstream bed erosion the diversion and short cutting of the active channel can potentially also isolate and cause a net reduction in wetted channel habitat and a loss of habitat heterogeneity. This is particularly so where deep pool section on bends are replaced by a shorter and shallower run sections.

Even if gravel excavation occurs away from the active channel during low flow periods, substrate stability and channel morphology outside the area's perimeter could be affected during subsequent high flow events.

- Recommendation: It would be worthwhile specifying that abandoned stream channels on terraces and inactive floodplains should be used preferentially to active channels, their delta and flood plains as this will reduce the tendency for rivers to short cut through extraction sites during high flow events.
  - The damaging activity of actively contouring bed material, in a way that it confines the channel to a set flow path or otherwise straightens the channel, should be expressly discouraged except where it is necessary to temporarily protect infrastructure, over short reaches and until infrastructural repairs are effected (the river should afterwards be returned to its pre-existing flow path).
- Operation of heavy equipment in the channel can directly destroy spawning habitat and increase turbidity and sediment transport downstream:
  - The RGMG makes reference to this throughout and in deference to the plan also warns against refuelling in the bed of a river or anywhere where spillage of contaminants may enter the river.
  - Recommendation: Continue with status quo.
- Stockpiles and overburden left in the floodplain can later channel hydraulics during high flows:
  - The water and land plan requires that no temporary stockpiles be left in the floodway.
  - Recommendation: Continue with the status quo but it would be worthwhile also specifying that extracted aggregates and sediments should not be washed within the riparian zone, directly in the stream or within the floodplain where there is potential for the fines to reach the stream. Extraction sites should be carefully selected to avoid potentially toxic sediment contaminants.
- Removal or disturbance of instream roughness elements during gravel extraction activities affects both quality and quantity of anadromous fish habitat:
  - Rough elements are likely to be as important if not more important for native fisheries as for adromous (salmonid fisheries). This is particularly as in intensively managed lowland riverscapes that (with the exception of willows) are bereft of woody plant species, contributions are limited to wood from the headwaters. Hence, wood debris should be retained wherever possible. The RGMG refers generally to the need to protect ecological values including riparian vegetation but there is no mention made of the value of woody habitat and of the need to retain it where possible. Generally large woody debris are viewed as creating a flooding risk but where their flooding risk or scouring potential is small, woody elements should be retained where possible.
  - Recommendation: Large woody debris within the riparian zone and within the active/wetted channel should be left undisturbed except where their removal is necessary to curtail active bank scouring and even then as roughness elements should be manipulated to alleviate the scouring rather than removing them outright.

- Other recommendations:
  - In the process of excavating gravel from the wetted channel there is potential for eels and other fish species to be removed along with the gravel. This often happens when drains in former wetland habitat are excavated. Elvers in particular occupy the interstitial spaces in riverbed gravels by day and could be extricated from riverine habitat in large numbers. The unfortunate thing is that while eels are capable of moving over wetted ground when actively migrating, eels other fish species cannot be relied upon to find their way back into the channel when forcibly removed. It may be possible, with some effort, to move a percentage of the larger eels back into water, but a great many elvers and other small fish species would likely perish. Gravel extraction from the wetted channel shouldn't be allowed to occur unless there is very low probability of removing fish (of all life stages) and fish eggs in the process.
  - Braided river systems should be used preferentially to other river systems and large rivers in preference to small rivers and streams. Theoretically gravel extraction will have less of an impact because braided river systems are dynamic and gravel extraction is more or less analogous to the naturally occurring process of channel shifting. Larger rivers tend to have a wider floodplain and the proportionally smaller disturbance in larger systems will lessen the overall impact. The RGMG largely addresses the issue of larger versus small by specifying the actual rivers where extraction may occur but it would be worthwhile specifying that extraction occur in braided rivers (including the actual braided sections of those rivers – because few of Bay of Plenty's rivers are braided for their length) in preference to split, meandering, sinuous straight (in the order of increasing sensitivity).

## **Ōpōtiki District Council**

### ***Jim Finlay (Engineering and Services Manager)***

- There is widespread criticism of the Council's management of gravel removal/lack of it and the concern generally for rising bed levels in rivers (in particular the Waioeka). The rules of the Plan may be causing difficulties in removing gravel. This matter has been expressed at the Waioeka-Otara Rivers stakeholders meetings as it affects the Ōpōtiki district and flood protection.

### ***Robert Schlojtes (Environment and Planning Manager)***

- Parts 1 (Introduction, Statutory Framework, Policy and Administrative Framework) & 2 (Background, Excavation Levels, Achieving Minimum Excavation Levels etc) of the Plan could be amended slightly to read as a Section 32 report.
- Areas of duplication in the Plans objectives and policies should be removed. However, if the Plan is to be inserted by way of a change into the RWLP, many of the existing objectives and policies of the RWLP (which are comprehensive and extensive) are likely to be sufficient.
- It is considered that the methods in Section 14.4 (Methods of Implementation) of the Plan are generally a restatement of the prior objectives and policies in Sections 14.2 (Objectives) and 14.3 (Policies).
- The Rule 1 – permitted activity conditions are generally satisfactory.
- Rule 2 contains some long paragraphs and is difficult to read.

## **Tauranga City Council**

### ***John Hickman (Water Catchments Engineer)***

- Abstraction of gravel upstream of Drinking Water Supply Intakes will result in significant deterioration in water quality being abstracted and could result in shortages of supply due to the inability of the treatment plants to treat such water. Treatment costs and deterioration of plant and equipment will occur. As such gravel abstraction in such streams should not be permitted.

## **Whakatāne District Council**

### ***David Bewley (Director of Environment and Policy), Tony Bullard (Senior Policy Planner) and Laura Swan (Team Leader - Planning)***

- The Plan should avoid duplication (which creates additional costs for both Council's and applicants) caused when both regional and district councils have to process duplicate consent applications for river gravel related activities subject to both district and regional controls. The district council current functions should be incorporated into the Plan and considered in regional consents. These should include those effects usually considered by district council such as traffic/roading, access/vehicle crossings, noise, hours of operation, location dwellings, amenity, public access etc. A previous precedent for reducing this duplication was the agreement Whakatāne District Council and Council had in relation to earthworks in riparian margins and which was mutually agreed to.
- The Plan provisions should be consistent with any relevant Whakatāne District Council provisions (e.g. Rule 4.1.3 – Mining and Exploration)
- The Council needs to be aware of the dual functions they have in relation to river bed management (i.e. RMA and flood management) and ensure that their responsibilities under both functions are properly considered in the review.

## **Excavation industry**

### **Eastern Bay Concrete (2003) Ltd**

#### ***Howard (Manager and Director)***

- Council applies for the resource consent then outlines the controls that must be adhered to. This process works well.
- The Council staff like Harold McConnell (Works Coordinator) are good to work alongside.

### **Kāingaroa Roading Contractors**

#### ***Jan Bolton (Owner/Manager)***

- Council applies for the resource consent then outlines the controls that must be adhered to. This works well because it is convenient, quick and economical. Council staff attend the site of extraction and make it clear what and what cannot take place.
- In the past it has been frustrating when the Council pollution prevention staff have taken enforcement action on the Council rivers and drainage staff operations because this prevents access to the gravel and could be better resolved through better communication.

- There needs to be better education about the plan requirements given to parts of the community (e.g. farmers). There have been instances of people within the community using the companies' machinery to access gravel without permission and they have not adhered to the plan requirements.
- The \$0.90/m<sup>3</sup> administration fee charged by Council is an acceptable charge. If the fee is increased Kāingaroa Roding Contractors may not continue this activity because gravel extraction is a minor activity in their greater work profile.

## **Timberlands Ltd**

### ***Graeme Loe (Roding Manager)***

- The gravel extraction systems work well at this point in time because it is convenient having Council apply for the consent and dealing with any issues associated with that consent.
- Timberlands Ltd continue to have a demand for gravel and the volumes granted continue to be satisfactory because it matches the need for gravel and is in accordance with the harvesting plan.
- Occasionally there are issues with accessing certain gravel where farming properties (cows, fencing, races etc) must be crossed because access require the landowners consent. Gravel closer to roads is preferred and Council do often provide for this.

## **TRACKS Concrete (2002) Ltd**

### ***Kevin Dodds (Managing Director)***

- It has been heard that there is a build up of gravel in rivers yet there is a lack of extraction. Supply exceeds demand.
- The processes involved in applying to extract gravel often discourage companies from applying. If the processes were easier companies might be more inclined to extract gravel.
- There are river areas upstream that TRACKS Concrete (2002) Ltd have identified where gravel could be extracted that would help avoid adverse effects on the lower stream. However, due to the processes being challenging, application to extract gravel is not appealing.
- Sometimes a consent holder can tie up a resource yet not use the resource themselves. This can be frustrating for others.
- Sometimes new landowners can prevent existing consent holders from accessing their land and therefore extracting gravel. This can be problematic.
- When circumstances occur like those described above, Council must often call on emergency works functions to extract gravel. There should be a better way of doing this than relying on emergency works.

## **Waiotahi Contractors Ltd**

### ***Daryl Petersen (Opotiki Manager)***

- Currently, extracting gravel from wet areas of a river is a discretionary activity. This activity should be a permitted activity because it would allow the excavation companies to get more gravel out of one pit/location at one time. This would be more convenient and efficient. Taking gravel from wet areas would also allow access to a better/cleaner quality gravel.
- In the past Waiotahi Contractors Ltd held resource consents to take gravel. Now consent is held by Council and Waiotahi Contractors Ltd approach Council (e.g. email Harold McConnell (Works Coordinator)) when they want gravel. Council then provides the contractor with an agreement that lists site specific general conditions and other details like the relevant consent number and administration fee etc. This arrangement works well.
- The closer a gravel extraction site is to the Waiotahi Contractors Ltd Operation Plant in Ōpōtiki the better because it reduces costs.
- The Plan provisions should be changed to permit a power screen (machinery used to separate the gravel into 3 different products and remove waste) to be used on a riverbed. It should also be permitted to fill the power screen with diesel on the riverbed. It is not worth the trouble filling up the power screen when it is some distance away from the riverbed. This machine allows an excavation company to sort onsite rather than sorting back at a Operation Plant. It would also allow a company to leave the waste material on site.
- The resource consent conditions to protect fish and trout spawning areas are agreed with.
- The administration fee of \$0.99/m<sup>3</sup> charged by Council should be reduced rather than increased because the excavation industry is helping the environment through extracting gravel. If costs do increase the excavation industry can access cheaper gravel from quarries. An administration fee of \$0.45/m<sup>3</sup> would be more appropriate. Other regional councils may charge less.
- The administration fee should only be paid on sales out the gate, if that is not already the case. This is because approximately 30% of the amount of gravel they extract is waste (silt) by the time they have returned and sorted it at the plant.

## **Wilson Bros Earthmovers Ltd**

### ***Harry Wilson (Managing Director)***

- The resource consent process is too cumbersome and laborious. The rules in the Plan should be made less restrictive and/or more activities should be given a permitted status.





## Appendix 3 – Assessment of individual provisions

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This table is intended to complement the main report. It has been prepared to advise:

- Whether and how each Anticipated Environmental Result (AER) has been achieved.
- Whether and how each Method (and its related Objective and Policy) has been achieved.

Plan Reference	Comments	Recommendations
AER (a) Preservation of the natural character of rivers and their margins and the protection of them from inappropriate use and development.	Partially met. Excavation rates have been managed by Council to ensure a balance with natural replenishment. Rules and consent conditions have required preservation of the natural character (e.g. conditions preventing earthworks or vegetation removal while using vehicles during gravel excavation and removal).	Retain
AER (b) Maintenance and enhancement of the water quality of riverine areas.	Partially met. Water quality is maintained and enhanced through the implementation of the guidelines and rules of the Plan. Compliance with consent conditions have also assisted in this (e.g. conditions that require avoiding sediment from being released into the water while carrying out gravel extraction).	Retain
AER (c) Maintenance of physical and ecological river processes.	Partially met. These processes have been maintained through Plan provisions and consent conditions that require ecological values to be protected as part of any gravel works.	Retain
AER (d) Maintenance of the biological diversity of the river environment including	Partially met. Plan provisions and consent conditions have	Retain

mitigating the adverse effects of river gravel excavation on fish passage and spawning.	helped to maintain biological diversity including having regard to fish spawning and rearing sites.	
AER (e) Maintenance and enhancement of the amenity values of the riverine environment, including recreational, educational, cultural, social and inspirational experiences.	Partially met. Achieved through Plan provisions and an assessment of environmental effects during the consent process and conditions that are developed from this. The produced guidelines also help maintain and enhance these values.	Retain
AER (f) Protection of the heritage values of sites, structures, places or areas within the riverine environment.	Partially met. Plan provisions, produced guidelines and an assessment of environmental effects has helped protect heritage values.	Retain
AER (g) Protection of the mauri of the natural and physical resources of the riverine environment.	Partially met. Methods 10, 11, 12, 9 The mauri has been protected in a number of ways. This includes: <ul style="list-style-type: none"> <li>• Plan provisions.</li> <li>• Setting consent conditions that ensure water quality standards are applied.</li> <li>• Consents staff also encourage the applicant to consult tangata whenua to ensure their perspective of mauri is considered. Tangata whenua still seek greater recognition of mauri in consents.</li> </ul>	Retain
AER (h) Allowance for the efficient and appropriate use and development of the natural and physical resources of the riverine environment.	Partially met. Guidelines and rules generally control efficient and appropriate use of the riverine environment. There may be need for greater guidance in the Plan on what is efficient use of these resources.	Retain
AER (i) Increased certainty of outcome for potential and actual users of the river gravel resource.	Partially met. Monitoring and information collated has helped to provide more certainty to the user as to where and how much gravel is available. The NERMN reporting helps to provide:	Retain

	<ul style="list-style-type: none"> <li>• Reliable data to identify the quantity of gravel available for extraction and the present extraction rates in region.</li> <li>• Data to allow setting maximum annual extraction rates available based on river control and river maintenance criteria.</li> <li>• Data with which the Council can meet its statutory obligations under section 35 of the RMA, and more effectively manage the region's resources. This reporting is intended to be written more regularly than the five years it is currently reported on.</li> </ul>	
AER (j) Co-ordination between the various agencies, which exercise responsibilities within the river environment.	Partially met. Plan provisions and guidelines have helped to clearly identify those agencies involved in gravel activities. Consultation and communication is mainly fostered through the consent process. Greater coordination/involvement is sought from tangata whenua.	Retain
Policy 1 - The balancing of gravel excavation rates with natural replenishment from the river catchment. Temporary over or under excavation may be necessary to correct over or under supply.	Met. The NERMN reporting helps ensure that gravel is not over extracted or under extracted.	Retain
Policy 2 - To sustainably manage and safeguard community assets (including flood control and drainage systems) from flooding and bank erosion.	Met by Council consents staff consulting New Zealand Transport Authority and district/city councils when community assets are affected by consent applications. Also achieved through the rules of the Plan.	Retain
Policy 3 - To require gravel excavation activities to use best practicable options to minimise the discharge of sediment and its impact on water quality.	Met through the use of the Plan rules, guidelines and consent conditions.	Retain
Policy 4- To minimise bank erosion, bed instability and risks from flooding.	Partially met. Some rivers have had their alluvial sediment transport analysed then this	Retain

	is used to set sustainable quantities. There are also asset management plans for each river.	
Policy 5 - To protect sites with ecological, habitat, natural character, amenity or heritage value from the adverse effects of river gravel excavation.	Met through the rules, guidelines and a consent officers assessment of environmental effects.	Retain
Policy 6 - To ensure that any adverse effects on aquatic ecosystems are avoided where practicable or otherwise mitigated and remedied.	Met through the rules, guidelines and a consent officers assessment of environmental effects.  Council water science and support staff have raised the concern that the Plan provides little guidance on how to minimise adverse impacts on ecological values. Nor generally is information given on what the critical issues are for New Zealand freshwater fisheries.	Combine with Policy 5
Policy 7 - To ensure that any adverse effects on riparian values on areas that are not aggrading or causing erosion are avoided or otherwise remedied or mitigated.	Met through a consent officer applying conditions of consents to protect riparian areas when carrying out gravel management activities.	Retain
Policy 8 - To recognise the cultural sensitivity that may be associated with heritage sites.	Met through liaising with tangata whenua at the time of consent applications.  Council is also increasing the effort to work more closely with tangata whenua. Some examples of this includes the work of the māori policy staff with Ngāti Manawa, land management staff working with Tūhoe and rivers and drainage staff along with the pollution prevention staff working with Te Waimana Kaaku (iwi authority for Ngai Tūhoe).  Continual use of iwi resource management plans will also strengthen recognition in the future.	Retain

<p>Policy 9 - To promote better liaison and more effective consultation between stakeholders, tangata whenua and affected parties.</p>	<p>Partially met. Council promote this through publicly notifying consent applications and assessing effects on affected parties.</p> <p>The introduction of the Council 'Māori Engagement Guidelines' will also assist in strengthening staff skills in consultation.</p>	<p>Retain</p>
<p>Policy 10 - To ensure that the relationships between tangata whenua and the region's rivers are recognised and provided for when dealing with gravel excavation.</p>	<p>Met through consent staff having regard to iwi resource management plans when considering applications for gravel excavation consents.</p>	<p>Retain</p>
<p>Policy 11 - To use rules, incentives, financial contributions and/or bonds to avoid, remedy or mitigate adverse effects on the environment.</p>	<p>Met through rules 1-4.</p> <p>Financial contributions are considered but mainly for the purpose of funding NERMN reporting. This NERMN reporting helps provide information to assist in making decisions about gravel extraction (e.g. where and when gravel can be taken from).</p> <p>No financial contributions have needed to be imposed to date.</p> <p>With regards to bonds, these are only required if a lot of rehabilitation to the site of excavation will be needed. Rarely needed or used.</p> <p>There is some uncertainty from Council staff about what is meant by incentives.</p> <p>Rivers and drainage staff explained that an example of an incentive has been to not charge the applicant administrative charges under section 36. These charges payable by the applicant for resource consent, in relation to receiving, processing, monitoring and granting the consent. This is often done as an</p>	<p>Retain. Provide greater guidance to Council staff on incentives they can utilise to control gravel excavation activities.</p>

	incentive to remove excess gravel causing problems. Another incentive has been to share the costs with the applicant.	
Policy 12 - Where possible gravel should be excavated from dry riverbeds.	Met through the guidelines, rules and consent conditions.	Retain.  Consider changing Rule 2 to allow gravel to be excavated from wet areas. Refer assessment of Rule 2 for reasons.
Policy 13 - To minimise the effect of gravel excavation activities on amenity values, recreational use and public access.	Met through the rules and guidelines.	Combine with Policy 5 and 6.
Policy 14 - To develop and maintain linkages between gravel excavation and catchment management.	Partially met through the asset management plans that have been developed for each river.	Retain
Policy 15 - To maintain river flood flow capacity and design river alignment and bed grade levels through the management of gravel excavation activities.	Partially met through directing extractions to areas of aggradation.	Retain
Policy 16 - To monitor physical and environmental attributes of rivers in order to determine the need for and the effects of gravel excavation activities.	NERMN reporting.	Retain
Policy 17 - To support the further development of river scheme liaison committees involving relevant tangata whenua, landowners and urban representatives.	Met. Schemes continued to be supported by Council.	Retain
<i>When acting as a consent authority BOPRC will:</i>		
Method 1 - Work with relevant organisations to identify and have regard to the protection of riverine heritage values when considering consent applications under this plan. <i>(Related provisions: Objective 8;</i>	Met through a consent officer's assessment of environmental effects.  Council is increasing the effort to work more closely with tangata whenua. Some examples	Retain

<p><i>Policies 5 and 8)</i></p>	<p>of this includes the work of the māori policy staff with Ngāti Manawa, land management staff working with Tūhoe and rivers and drainage staff along with the pollution prevention staff working with Te Waimana Kaaku (iwi authority for Ngai Tūhoe).</p>	
<p>Method 2 - Identify with relevant organisations (district councils, DOC, Eastern Region Fish and Game Council, tangata whenua and the excavation industry) fish spawning (see Section 19) and rearing sites when considering gravel excavation resource consent applications. <i>(Related provisions: Objectives 3 &amp; 13; Policies 2 &amp; 6)</i></p>	<p>Met through a consent officer's assessment of environmental effects. A consent officer might also approach those organisations or applicant if insufficient information is provided on fish spawning and rearing sites. The Plan also lists trout spawning areas. Council environmental scientists are also called on for advice.</p> <p>Liaison with relevant organisations such as DOC have helped produce Schedules 1-3 of the RWLP which provide important information on fish spawning and rearing sites.</p>	<p>Retain. Schedules 1-3 of the RWLP are often referred to for information about fish spawning and rearing sites. It would be useful if the Plan also included this type of information or the Plan be incorporated into the RWLP as a separate chapter.</p>
<p>Method 3 - Have regard to fish spawning (see section 19) and rearing sites when considering a gravel excavation resource consent application. <i>(Related provisions: Objectives 4, 5 &amp; 6; Policy 6)</i></p>	<p>Met through a consent officer's assessment of environmental effects. A consent officer might also approach those organisations or applicant if insufficient information is provided on fish spawning and rearing sites. The Plan also lists trout spawning areas. Council environmental scientists are also called on for advice.</p> <p>Liaison with relevant organisations such as DOC have helped produce Schedules 1-3 of the RWLP which provide important information on fish spawning and rearing sites.</p>	<p>Retain. Schedules 1-3 of the RWLP are often referred to for information about fish spawning and rearing sites. It would be useful if the Plan also included this type of information or the Plan be incorporated into the RWLP as a separate chapter.</p>
<p>Method 4 - Apply controls on gravel excavation activities in order to safeguard</p>	<p>Met through a consent officer applying condition(s) of consent to protect riparian</p>	<p>Retain</p>



<p>existing riparian values on river reaches that are not actively eroding or aggrading. (Related provisions: Objectives 1, 4, 5, 6, 7, and 10; Policy 7)</p>	<p>areas when carrying out gravel management activities.</p> <p>Prior to any excavation work, the Council rivers and drainage staff and consents staff set controls and provide advice on what can and cannot be done.</p> <p>Controls could include avoiding/mitigating access to vegetation areas. Generally, only gravel is extracted so there is no issue of damaging riparian values. There is also a requirement to leave the riverine area in a shape/slope so as to not damage any ecology etc.</p>	
<p>Method 5 - Develop guidelines and standards in liaison with relevant organisations within 12 months of the public notification of Council's decisions on submissions for gravel excavation operations, which will include:</p> <ul style="list-style-type: none"> <li>(i) habitat protection</li> <li>(ii) habitat restoration/remediation</li> <li>(iii) public access</li> <li>(iv) amenity values</li> <li>(v) recreational use, and</li> <li>(vi) the avoidance, where possible of gravel operations within streams including the minimisation of vehicles crossing streams.</li> </ul> <p>(Related provisions: Objectives 2, 4, 5, 7, 9 and 10; Policies 3, 5, 6, 12 and 13)</p>	<p>Met through the development of the River Gravel Management Guidelines (Environment Bay of Plenty, November 2003).</p> <p>Council pollution prevention staff suggest improvements with regards to (vi) would be to place greater emphasis/controls on minimising/avoiding hot vehicle diffs and brakes from entering the water because this upsets the temperature and aquatic environment.</p> <p>Council water science and support staff raise concern that while the intent of the guidelines is to minimise adverse impacts on ecological values the Plan provides little guidance on how this might be achieved. Changes to the Plan and guidelines are recommended to address this concern.</p>	<p>Remove because this method is completed. However, the existing guidelines will need to reflect any potential changes that are made to the Plan and address concerns raised by Council pollution prevention and water and science support staff.</p>
<p>Method 6 - Use guidelines, standards, incentives and rules to control gravel excavation activities. (Related provisions: Objectives 1, 2 &amp; 10;</p>	<p>Met through the Plan rules and the guidelines booklet.</p> <p>There is some uncertainty from Council staff</p>	<p>Retain. Provide greater guidance to Council staff on incentives they can utilise to control gravel excavation activities.</p>

<p>Policies 3, 4, 6, 12, 13 &amp; 15)</p>	<p>about what is meant by incentives.</p> <p>Rivers and drainage staff explained that an example of an incentive has been to not charge the applicant administrative charges under section 36. These charges payable by the applicant for resource consent, in relation to receiving, processing, monitoring and granting the consent. This is often done as an incentive to remove excess gravel causing problems. Another incentive has been to share the costs with the applicant.</p>	
<p>Method 7 - Identify and have regard to the safeguarding of community assets when considering consent applications.</p>	<p>Met by Council consents staff consulting New Zealand Transport Authority and district/city councils when community assets are affected (e.g. bridges, roads).</p>	<p>Retain</p>
<p>Method 8 - Require all vehicle maintenance and fuelling to take place away from riverbeds and unconsolidated berm areas.</p>	<p>Met through a requirement of the rules, consent conditions and compliance.</p> <p>Council pollution prevention staff report that the commercial operators contracted out to do undertake gravel excavation are good at adhering to this requirement.</p>	<p>Retain</p>
<p>Method 9 - Control sediment release and transport from gravel excavation activities by using applicable water quality standards as conditions on consents.</p>	<p>Met through consent conditions. To control this, often a condition of consent is to not allow access to the water or apply best practise techniques when excavating.</p>	<p>Retain</p>
<p>Method 10 - Require effective consultation programmes between all relevant stakeholders, tangata whenua and affected parties as a standard component of gravel excavation operations.</p>	<p>Partially met. Council cannot require consultation however they can publicly notify applications and assess effects on affected parties.</p> <p>It can be required if a Treaty Settlement specifies this (e.g. gravel excavation operations in the Whakatane River require consultation with Ngati Awa).</p>	<p>Amend the wording of this method because Council cannot require effective consultation.</p>

	The introduction of the Council 'Maori Engagement Guidelines' will assist in strengthening staff skills in consultation.	
Method 11 - Require all applicants for gravel excavation consents to provide evidence of effective consultation with tangata whenua likely to be affected by the proposed activity or those whom otherwise have tribal jurisdiction (mana whenua) over the intended location of the proposed activity.	Partially met. Council cannot require but it is encouraged and a consent officer may confirm that the applicant has consulted with tangata whenua. This may be required as part of the assessment of environmental effects.	Amend the wording of this method because Council cannot require this.
Method 12 - In accordance with Section 104(1)(i) of the Resource Management Act 1991, have regard to iwi resource management plans when considering applications for gravel excavation consents.	Met when consent staff assess an application. This is a basic consent processing requirement. It is one of the steps set out in the consent staff templates. Sometimes it is difficult to assess the effect of gravel excavation on iwi resource management plans because the plans do not provide great detail about the effect of gravel excavation activities.	Retain. Council should work together with iwi to ensure that resource management plans or another means clearly identifies how their values are affected by gravel excavation activities.
Method 13 - Consider requiring a financial contribution within the meaning of Section 108(9) of the Resource Management Act 1991, as a condition of a gravel excavation consent to ensure that adverse effects of gravel excavation that cannot be avoided or remedied are suitably mitigated.	Financial contributions are considered but mainly for the purpose of funding NERMN reporting. This NERMN reporting helps provide information to assist in making decisions about gravel extraction (e.g. where and when gravel can be taken from).  No financial contributions have needed to be imposed to date.  90 cents per cubic metre is currently charged for excavations granted under consent.	Retain
Method 14 - When applying a financial contribution, the basis outlined in section 13.2 will be used for calculating the amount to be imposed and the purpose to which it will be put.	Met.  No financial contributions have needed to be imposed to date.	Retain
Method 15 - When applying a bond as a condition of a gravel excavation resource consent the basis outlined in Section 13.3 will	Met. Bonds are only required if a lot of rehabilitation to the site of excavation will be needed.	Retain

be used.	Rarely needed or used.  This method is also unlikely to be needed because the consent conditions usually specify restoring the site after the work is complete e.g. levelling off the bank etc.	
Method 16 - Require consent holders to provide accurate information on the quantity of gravel removed from rivers.	Met through a consent condition. This information is then forwarded to contribute to NERMN reporting.	Retain
Method 17 - Carry out ongoing monitoring and collate data to effectively determine maximum and minimum levels of excavation and any adverse effects of excavation on the environment including cumulative effects.	Met through a consent condition. This information is then forwarded to contribute to NERMN reporting.	Retain
<i>When carrying out its functions under the Soil Conservation and Rivers Control Act 1941, Environment B•O•P will:</i>		
Method 18 - Develop flood plains and gravel excavation management strategies for river catchments with major flooding problems, unstable riverbeds or river flood control schemes.	Partially met. Some rivers have had their alluvial sediment transport analysed then this is used to set sustainable quantities. There are also asset management plans for each river.  Optimum bed levels are being developed for river systems where active extraction is undertaken. This will be included in the NERMN reporting.  A number of rivers have had meander analysis completed.	Retain. Amend the wording 'plains' to 'plans'.
Method 19 - Control gravel excavation rates to balance with natural replenishment.	Met. The NERMN reporting helps ensure that gravel is not over extracted or under extracted.	Retain
Method 20 - Where appropriate, use incentives to achieve the excavation of surplus gravel that is causing adverse effects on the environment.	Met through the Plan rules and the guidelines booklet.  There is some uncertainty from Council staff about what is meant by incentives.	Retain

	<p>Council environmental hazards staff explained that an example of an incentive has been to not charge the applicant administrative charges under section 36. These charges payable by the applicant for resource consent, in relation to receiving, processing, monitoring and granting the consent. This is often done as an incentive to remove excess gravel causing problems. Another incentive has been to share the costs with the applicant.</p>	
<p>Rule 1 – Permitted Activity (Excavation and removal of up to 100 cubic metres per calendar year of river gravel from the dry part of any aggraded gravel beach in the bed of a river)</p>	<p>The Rule 1 conditions are appropriate for most people that work under it.</p> <p>The rule makes references to the RLMP that are no longer operative, resulting in uncertainty for the user. For example, Rule 1, condition (8), states, Stream Crossings (including culverts, culvert extensions, bridges and fords) required as any part of any gravel excavation removal activity shall comply with the requirements of section 10.5.6 of the RLMP.</p>	<p>Retain rule 1</p> <p>Change the references in the general Plan and Rule 1 from the RLMP to the relevant rules of the operative RWLP. For example, the RWLP replaces the more general stream crossing rule 10.5.6 with a number of separate rules such as permitting single span bridges or fords.</p>
<p>Rule 2 – Permitted Activity (Excavation and removal of river gravel from, or where necessary it's placement on that part of the river bed not covered by water undertaken by or on behalf of Environment B•O•P while exercising it's river management, flood protection or flood control functions under the Soil Conservation and Rivers Control Act 1941, for the purpose of achieving desired river meander pattern, location, alignment and bed grade)</p>	<p>The conditions of Rule 2 in the Plan are considered too restrictive for rivers and drainage staff and contractors to operate within. For instance, condition (2) allows for the excavation and placement of no more than 7,500 cubic metres of gravel per year from the bed of a river. This amount is not considered sufficient for the purposes of achieving desired river meander, location, alignment and bed grade therefore consent is often required to be applied for in order to increase the amount.</p> <p>The quantity and wet area restrictions were originally developed to permit negligible adverse effects on water quality and habitat etc and also eliminate unnecessary consent processing and admin. The excavation level was thought necessary to balance excavation</p>	<p>Retain Rule 2</p> <p>Consider removing the quantity restrictions set in condition (1) and (2).</p> <p>Consider removing the wet area restriction set in condition (6).</p> <p>Consider rewording other conditions of Rule 2 to incorporate the intent of Rule 10.5.8.3 of the RLMP.</p>

	<p>rates with natural replenishment.</p> <p>However, Council consents and rivers and drainage staff report that overtime it has been found that the quantity is not a good measurement of sustainability or environmental effects – each reach of river or stream is unique and may or may not require extraction or can sustain any significant extraction. Council already assess this through the allocation process. With regards to the wet area restrictions it has been acknowledged that focusing excavation on the dry parts has reduced the quantity of gravel available from any one site.</p> <p>Council water science and support staff are concerned that in the process of excavating gravel from the wetted channel there is potential for eels and other fish species to be removed along with the gravel. This often happens when drains in former wetland habitat are excavated. Elvers in particular occupy the interstitial spaces in riverbed gravels by day and could be extricated from riverine habitat in large numbers. The unfortunate thing is that while eels are capable of moving over wetted ground when actively migrating, eels and other fish species cannot be relied upon to find their way back into the channel when forcibly removed. It may be possible, with some effort, to move a percentage of the larger eels back into water, but a great many elvers and other small fish species would likely perish. Gravel extraction from the wetted channel shouldn't be allowed to occur unless there is very low probability of removing fish (of all life stages) and fish eggs in the process.</p> <p>Council is still subject to Rule 2 when they are</p>	
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	operating under a River Scheme. Council operational staff consider consent to be an unnecessary additional requirement because a River Scheme already ensures gravel extraction practises are sustainable.	
Rule 3 – Permitted Activity (Any river gravel excavation activity or related disturbance of the bed of a river that meets the requirements of and is permitted under either Rule 10.5.8.2 or Rule 10.5.8.3 of the Regional Land Management Plan)	The rule makes references to the RLMP that are no longer operative, resulting in uncertainty for the user.	Change the references in the Plan from the RLMP to the relevant rules of the operative RWLP.
Rule 4 – Discretionary Activity (Any river gravel excavation activity or any related disturbance of the bed of a river that is not a permitted activity in accordance with either Rule 1, 2 or 3 above is a discretionary activity)		Retain

## Appendix 4 – Recommended changes to the issues

Existing Issues	Recommendation
1. Under-excavation of gravel, resulting in bed aggradation reduces channel flood capacity and adversely effects productive farmland, stopbanks, riverbed stability, structures and other instream assets and values.	Retain as still applicable
2. Over-excavation of gravel, causing channel instability and adversely affecting aquatic and riparian ecosystems and habitats.	Retain as still applicable
3. Excessive removal of gravel from a river, aggravating coastal erosion on the down drift side of a river mouth.	Remove as covered by issue 2
4. The significant costs incurred by gravel removal for flood, erosion control and drainage purposes.	Remove as no longer relevant nor a significant issue
5. Difficulty of access to remove gravel for some river reaches.	Retain as still applicable
6. The impact of gravel excavation operations on water quality.	Retain as still applicable
7. Increased risk of adverse effects from natural hazards arising from both over and under-excavation of gravel.	Remove as covered by issue 1 and 2
8. Increased risk of bank erosion and flooding from excessive gravel build-up.	Remove as covered by issue 1
9. Coastal erosion processes aggravated by over-excavation of gravel.	Remove as covered by issue 1
10. The impact of excavation operations on:  Diversity of in-stream habitat for fish and other aquatic life.  Fish spawning habitat through alteration of meander patterns and the run riffle-pool structure of rivers.  Suspended sediment load and sequent effects on spawning sites, fish migration and a reduction of aquatic plants.	Retain as still applicable
11. The impact gravel excavation has on sites and values having cultural and heritage significance.	Remove as adequately covered by issue 1 and 2
12. The need to recognise and protect cultural and heritage sites and values.	Retain as still applicable today
13. The lack of a register of sites that could be adversely affected by gravel excavation activities	Remove as addressed through other means such as iwi management plans



and that have cultural or heritage significance.	
14. Arbitrary administrative boundaries and ineffective consultation can obstruct the purpose of the Resource Management Act 1991, namely sustainable management.	Remove because not significant
15. The lack of monitoring of environmental effects of gravel excavation.	Remove because addressed through NERMN reporting
16. The lack of reliable historical data for gravel management decision-making.	Remove because no longer relevant
17. Unreliability of past excavation records obtained from operators.	Remove because no longer relevant
18. Operator's records of volumes of excavated gravel based on volumes sold do not give an adequate measure of volumes removed from the river.	Remove because no longer relevant