

Hawke's Bay Riverbed Gravel Management Plan

Draft for Consultation

March 2017

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Glossary

The following specific terms are used in this Plan in relation to gravel management and their definitions are provided below:

Authorisation – A contractual agreement issued by the Hawke’s Bay Regional Council Assets Section to commercial gravel extractors for the extraction of riverbed gravel.

Authorisation Zones – Either whole catchments or specific river reaches that Hawke’s Bay Regional Council Assets Section holds Resource Consent under the Resource Management Act for gravel extraction.

LIDAR - is an acronym of Light Detection and Ranging, a surveying technology that measures distance by illuminating a target with a laser light.

Gravel Monitoring and Supervision Charge – The charge payable per cubic metre of gravel extracted to fund Hawke’s Bay Regional Council’s administration, monitoring and supervision of the region’s gravel resources.

Resource Consent – Issued under the Resource Management Act by the Resource Consent Department of Hawke’s Bay Regional Council, authorising the extraction of riverbed gravel.

Introduction

This Gravel Management Plan (GMP) documents the framework for managing the extraction of gravel from rivers in Hawke's Bay. The GMP sets out the role of Hawke's Bay Regional Council (HBRC) in managing gravel extraction, the outcomes HBRC wish to achieve, and the methods by which gravel extraction will be authorised.

The overall purpose of this GMP is to *sustainably manage gravel extraction from rivers for flood protection purposes, and to ensure community safety while allowing for economic development without compromising cultural, social and environmental outcomes and values associated with the region's freshwater resources.*

This GMP only deals with the management of the "riverbed" gravel resource in Hawke's Bay, as this is under the direct legal control of HBRC.

The management of riverbed gravel resources by a Regional Council is a 'balancing act' of multiple considerations including:

- Maintaining channel capacity
- Avoiding over-extraction and destabilising protection works
- Quality of gravel source
- Avoiding unintended outcomes of promoting land based abstraction
- Financial and practical availability for extractors (transport economics, haul roads etc.)
- Resource management and stakeholder management

Hence, the management of gravel is a multi-faceted, 'whole of region' issue.

Plan Development Process

This **GMP** has been developed after a series of technical investigations carried out since 2010 and initial discussions with the industry key stakeholders and Iwi.

This GMP was then formally prepared under the Local Government Act (2002) Special Consultative Process. A draft version of this document was released for public submission on xxx 2017, with a total of xxx submissions received. An independent hearings panel was appointed and a hearing held on xxxx 2017 at which xxx submitters presented their submissions. The hearing panel recommended some changes to the draft version as a result of hearing submissions, and these changes are included in this document. The Hawke's Bay Regional Council Joint Planning Committee adopted this amended final version on xxxx 2017.

Principles

The following principles provide the foundation for this GMP, and guide the direction and decision-making around management of gravel extraction from Hawke's Bay rivers. The five principles are:

- Recognition of the kaitiaki responsibilities of Hawke's Bay iwi in relation to freshwater resources, their beds and banks, that make up the *Mauri* or life fore of each waterbody
- Achieving the multiple outcomes of economic, social, environmental and cultural wellbeing while recognising, that flood management is the primary driver of this GMP
- Sustainable resource management of the gravel resource
- Ensuring that good science supports decision-making
- Adopting a partnership approach with stakeholders to ensure best practice in maximising environmental, cultural, social and economic benefits

Objectives

The primary objective of this GMP is to sustainably manage the extraction of riverbed gravel for flood management and erosion control purposes, while:

- Recognising and providing for Iwi cultural and spiritual values of rivers and streams
- Protecting and where appropriate, enhancing, environmental values
- Ensuring consistency with the Resource Management Act 1991 (RMA) and other national RMA instruments, the Regional Policy Statement and Regional Resource Management Plan
- Allowing access to gravel to meet the economic needs of our communities
- Informing future RMA plan change and resource consent processes
- Implementing a research plan to better understand the regions gravel resource and to better manage the effects of its extraction operations

The Hawke's Bay Riverbed Gravel Resource

Gravel supply to the Hawke's Bay River systems has been highly episodic, and based on storm events and flood activity to erode, entrain and transport gravel from the mountain ranges to the coast. The most extreme example was Cyclone Bola in 1988 which resulted in significant sediment input into the northern Hawke's Bay River systems. More historically, Hawke's Bay flood events in the 1930's were a major catalyst for the enacting of the Soil Conservation and Rivers Control Act in 1941, during the World War II years, which is an indication of the significance of the issue during this period. The main Hawke's Bay rivers have not experienced significant flood events for some decades, resulting in a reduced gravel supply from headwater areas and reduced movement of sediment through the river systems. For instance, in the Ngaruroro River, there has only been approximately 1.9 km of natural downstream gravel movement in the last 40 years. This is also compounded by invasive vegetation species in Hawke's Bay's semi-braided riverbeds, which are preventing sediment movement and leading to aggradation. Invasive vegetation can also threaten native bird habitats.

Riverbed 'beach raking', undertaken by HBRC as a channel management technique within flood scheme areas, breaks up the surface layer of interlocked gravel (known as the 'armour layer'), and is undertaken by HBRC in flood scheme areas where there is little or no gravel extraction to encourage downstream movement of gravel through the river systems. However, this still requires flood events (albeit of lower flood magnitudes) to move this sediment.

Seismic activity has also been observed as causing major sediment input into river systems, or conversely, as occurred in the 1931 Napier earthquake, uplift on the plains which flattened river gradients, decreasing the rivers' hydraulic ability to transport gravel through to the lower reaches and coast.

Some Hawke's Bay river reaches, in areas of high gravel demand, have historically been over extracted, which is now apparent within longer term monitoring records. In such rivers, gravel extraction has now largely ceased – the result of very small amounts or no gravel being allocated via the RMA resource consent process.

While small amounts of gravel (less than 0.25m³) can be extracted without the need for resource consent from any riverbed in Hawke's Bay, the main river systems that have historically been in demand for commercial quantities of gravel are:

- Northern Hawke's Bay rivers (Mohaka, Wairoa or Waiau rivers)
- Esk
- Ngaruroro
- Tuataekuri
- Waipawa
- Tukituki (Upper and Lower)

The following summarises the gravel resource status of each of these main Hawke's Bay river systems historically used for commercial gravel extraction:

Northern Hawke's Bay Rivers

No issues have been identified in recent years in regard to the northern Hawke's Bay river systems including the Mohaka, Wairoa or Waiau Rivers, in respect to their gravel resources. Historically, demand is reasonably low and as such, no concerns exist over the sustainability of the resource and no significant channel capacity issues exist. Of special note are the specific provisions for the Mohaka River resulting from a recent Treaty of Waitangi Settlement which provides for hangi stone values for local iwi.

Esk River

The Esk River has experienced significant channel degradation (lowering of the bed) since the mid 1970's partly through over extraction and partly through willow clearance work to maintain flood capacity. The degraded reach is from the SH2 bridge near the coast, to past the Waipunga Bridge (cross sections 1 to 11), therefore no major consented extraction occurs. A minor amount of extraction occurs at the Whirinaki Pulp Mill water intake site.

Tutaekuri River

The Tutaekuri River has also historically been over extracted within the vicinity of Waiohiki and downstream with two fixed aggregate plants operating for local supply. These have long since ceased operation, but nevertheless, recovery of the gravel has been slow and as a result practically no extraction (other than for river maintenance) has been consented below Puketapu. Upstream of Puketapu Bridge there is currently some surplus. Future significant extraction would be unsustainable from this resource.

Ngaruroro River

The Ngaruroro River is the most important gravel resource in Hawke's Bay due to the quality and suitability of its gravel for a range of engineering end uses, and its proximity to demand centres. The Ngaruroro River has been carefully managed in recent years and consented extraction is consistent with current natural supply. Demand for the Ngaruroro gravel resource remains high and is in excess of consented volumes. In excess of 300,000 cubic metres of gravel is extracted per annum and is the largest supply of gravel in Hawke's Bay.

Waipawa River

The Waipawa River is showing a moderate aggradation trend, particularly in the middle reaches. Increased gravel extraction in the coming years will be required in the Waipawa River, but current demand is low. This is especially important as the Waipawa gravel is particularly large above State Highway 50, and is proving too difficult to beach rake. However, potential construction of the Ruataniwha Dam will cease sediment supply to the Waipawa River from the major Makaroro tributary, which will allow the current aggradation to be transported downstream over time.

Tukituki River

The upper and mid reaches of the Tukituki River are showing the greatest evidence of aggradation and gravel extraction demand has been in considerable decline in recent years. Conversely, the lower Tukituki has been most significantly over extracted and only small localised amounts of gravel are allocated below Red Bridge.

Analysis shows that approximately 800,000 cubic metres of gravel exists above the defined 'grade line' in the upper Tukituki; and a significant 14 million cubic metres above 'grade line' in the mid Tukituki reaches. However, the aggradation is not uniform across these long reaches, with some cross sections recording at or lower than grade line levels. Hence, the aggradation is at times localised and often associated with flat channel grades where the sediment drops out. This is particularly evident in some tributaries and at their confluences.

Summary

In summary, the Hawke's Bay regional riverbed gravel resource is characterised by high quality gravel that is in high demand from the Ngaruroro River, with this demand successfully managing channel capacity for flood management purposes for this river. Conversely, low demand for gravel exists from the upper and mid Tukituki and Waipawa rivers which are showing aggradation trends, and in some reaches resulting in channel capacity and drainage issues. All other rivers are either subject to low levels of gravel extraction due to sustainability concerns of the resource, or low demand (e.g. Northern Hawke's Bay rivers).

The Legal Basis to Gravel Management

There are a number of statutes of specific relevance to floodplain management and by extension, gravel management. The three main statutes are:

- Local Government Act 2002
- Resource Management Act 1991
- Soil Conservation and Rivers Control Act 1941

Each of these statutes gives HBRC a specific mandate to manage flood risk and gravel extraction and provide a range of legislative mechanisms to:

- Avoid or mitigating flooding
- Undertake flood control works
- Manage gravel resources for flood management purposes
- Collect and make available flood and gravel information

Of particular note is, a Regional Council's responsibility to manage gravel does not solely stem from the RMA and its processes as both the Local Government Act and Soil Conservation and Rivers Control Act give a more extensive mandate in this area of activity.

This GMP integrates HBRC's responsibilities under these respective Acts into a single plan, as no one statute is more important than another. The Local Government Act Special Consultation Process provides the mechanism to consult on, and document how HBRC's responsibilities will be exercised.

Local Government Act (2002)

Section 11A of the Local Government Act states:

In performing its role, a local authority must have particular regard to the contribution that the following core services make to its communities:

- a) network infrastructure:*
- b) public transport services:*
- c) solid waste collection and disposal:*
- d) **the avoidance or mitigation of natural hazards:***
- e) libraries, museums, reserves, recreational facilities, and other community infrastructure*

As the gravel management functions primary purpose is for flood control, this GMP is consistent with Section 11A(d).

Resource Management Act (1991)

In respect to gravel management, the RMA has six broad legislative areas of relevance:

- Natural hazard management (Section 30 (iv))
- Resource consents for gravel extraction (Section 9)
- Charging regime (Section 36 and 108)
- The legal basis to strategies such as this GMP (Section 104(1)(c))

It is the intention of HBRC to consider this GMP (pursuant to Section 104(1)(c) in all future Resource Consent applications made to HBRC Resource Consents Department.

Soil Conservation and Rivers Control Act (1941)

The overriding purpose of the Soil Conservation and Rivers Control Act is to make provision for the conservation of soil resources, the prevention of damage by erosion and to make better provision for the protection of property from damage by floods. While the Act has been largely superseded by the provisions of the RMA, the current provisions of the Soil Conservation and Rivers Control Act still provide the legal mandate to Regional Councils to protect communities from flooding using ***the most appropriate methods***. The mandate that this Act confers to Regional Councils serves to differentiate a Regional Council's gravel extraction operations from a commercial entity extracting gravel. This is an important legal distinction that has had a significant bearing in the development of this GMP.

Regional and District Planning Requirements

The Regional Policy Statement contains Issues, Objectives and Policies relating specifically to gravel management, and covers the range of matters to be considered in managing a regional gravel resource. These specific provisions are complemented by the flood hazard provisions of the Regional Policy Statement which are aimed at avoiding and mitigating flood hazards.

Except where very small quantities are involved (less than 0.25m³), which are a permitted activity, the extraction of gravel from the bed of a river requires resource consent under Regional Resource Management Plan Rule 74. Rule 74 has a Restricted Discretionary activity status, meaning that HBRC as the Consent Authority can only consider those matters over which it has restricted its discretion.

Rule 70 allows the HBRC Asset Section to carry out the listed activities as a permitted activity. It is noteworthy that this does not include gravel extraction, hence resource consent is required.

HBRC has an *Environmental Code of Practice for River Control and Waterway Works* (COP) in and around waterways, which is applicable to gravel extraction operations. The purpose of the Code of Practice is to provide a guiding document for gravel extraction from rivers and demonstrates accepted practices that avoid and minimise environmental impacts. This Code of Practice can be found on HBRC's web site.

The relevant Regional Resource Management Plan Rules are given in Figure 1 below.

Each District Council in Hawke's Bay (Wairoa, Hastings and Central Hawke's Bay District councils and Napier City Council) should be consulted to check whether any resource consent requirements also exist under their respective district plans for any gravel extraction operation.

Figure 1: Relevant Regional Resource management Plan Rules for Gravel extraction

6.8.3 RIVER CONTROL & DRAINAGE WORKS & STRUCTURES

Rule	Activity	Classification	Conditions/Standards/Terms	Matters for Control/Discretion	Non-notification
<p>70</p> <p>River control & drainage works & structures</p> <p>Refer POL 79</p>	<p>Any activity, as described in the Hawke's Bay Regional Council Environmental Code of Practice for River Control and Drainage Works (1999), that is carried out by a local authority exercising its powers, functions and duties under the Soil Conservation and Rivers Control Act 1941, the Land Drainage Act 1908, or the Local Government Act 1974, in relation to flood control and drainage, including:</p> <ul style="list-style-type: none"> • edge protection works • planting • river protection maintenance works • irrigation intake maintenance • weed and vegetation control (excluding spraying) • drain maintenance, and drainage outlet maintenance • drain crossings • river mouth openings for the purpose of flood mitigation • river management and drainage for the maintenance of surface water quality • channel diversions within a river bed or drain, ancillary to the above activities <p>that would otherwise contravene:</p> <ul style="list-style-type: none"> • section 13 or section 14 of the RMA, or • section 15 of the RMA in relation to the discharge of sediment. 	Permitted ¹⁵³	<p>a. The activity or structure shall be undertaken in a manner that continues to provide for the existing passage of fish past the structure.</p> <p>b. The appropriate Fish and Game Council, iwi and Department of Conservation office, shall be notified at least 5 working days before any channel diversion is undertaken.</p> <p>c. There shall be no discharge of contaminants, other than sediment, arising from the use of machinery in the bed of any river or lake.</p> <p>d. The activity shall not adversely affect any wetland.¹⁵⁴</p> <p>e. All activities shall be undertaken in accordance with the Hawke's Bay Regional Council Environmental Code of Practice for River Control and Drainage Works, 1999.</p>		

¹⁵³ If Rule 70 cannot be complied with, then the activity is a discretionary activity under Rule 69.

¹⁵⁴ For the purpose of this Plan the term 'wetland' does NOT include:

- wet pasture land
- artificial wetlands used for wastewater or stormwater treatment
- farm dams and detention dams
- land drainage canals and drains
- reservoirs for firefighting, domestic or municipal water supply
- temporary ponded rainfall
- artificial wetlands.

6.8.5 RIVER BED GRAVEL EXTRACTION

Rule	Activity	Classification	Conditions/Standards/Terms	Matters for Control/Discretion	Non-notification
<p>73</p> <p>Small scale river bed gravel extraction</p> <p><i>Refer POL 79</i></p>	<p>The extraction of sand, gravel or other material from the bed of a river using a hand-held, non-mechanical device (e.g. a shovel), and any associated disturbance of the bed.</p>	<p>Permitted</p>	<p>a. The quantity of bed material extracted by any person at any one time shall not exceed 0.25 m³.</p> <p>b. The total quantity of bed material extracted by any person shall not exceed 1 m³ per year.</p> <p>c. The material shall be extracted from an area of river bed that is not covered by water at the time of extraction.</p> <p>d. The area from which material is extracted shall be recontoured so that no mounds or depressions remain.</p> <p>e. There shall be no discharge of any contaminant directly into water.</p>		
<p>74</p> <p>Large scale river bed gravel extraction</p> <p><i>Refer POL 53, 79</i></p>	<p>The extraction of sand, gravel or other material from the bed of any river or lake, and:</p> <ul style="list-style-type: none"> • any associated disturbance of the bed, and • any associated discharge of sediment, and • any associated diversion of water <p>that is not provided for by Rule 73.</p>	<p>Restricted discretionary</p>		<p>a. Location of extraction sites and stockpile areas.</p> <p>b. Volume of gravel extracted.</p> <p>c. Rate of removal of gravel.</p> <p>d. Period of extraction.</p> <p>e. End use of the gravel.</p> <p>f. Dust management.</p> <p>g. Other matters set out in Policy 53.</p> <p>h. Financial contributions.</p> <p>i. Duration of consent.</p> <p>j. Review of consent conditions.</p> <p>k. Compliance monitoring.</p>	



Gravel Management Framework and Allocation Volumes

The following is the overarching management framework that will apply to the extraction of riverbed gravel throughout Hawke's Bay:

Permitted Activity

Gravel extraction of less than 0.25m³ and which meets the other standards listed within Rule 73 of the Regional Resource Management Plan (See Figure 1) is a permitted activity and does not require a Resource Consent or Authorisation. If your gravel volume exceeds 0.25m³, you require either a Resource Consent or Authorisation from HBRC.

Authorisation Zones

An Authorisation Zone is where HBRC Asset Management section holds Resource Consent under the RMA for gravel extraction either for an entire catchment or specific river reach. The location of the Authorisation Zones can be seen at www.xxxxx.

Gravel extracted within Authorisation Zones requires an Authorisation from HBRC Asset Management section (see www.xxxxx for the Authorisation forms).

Gravel extraction outside an Authorisation Zone requires a Resource Consent from the HBRC Resource Consent Department.

Figure 2 illustrates the Gravel Management framework process

Authorisation Process

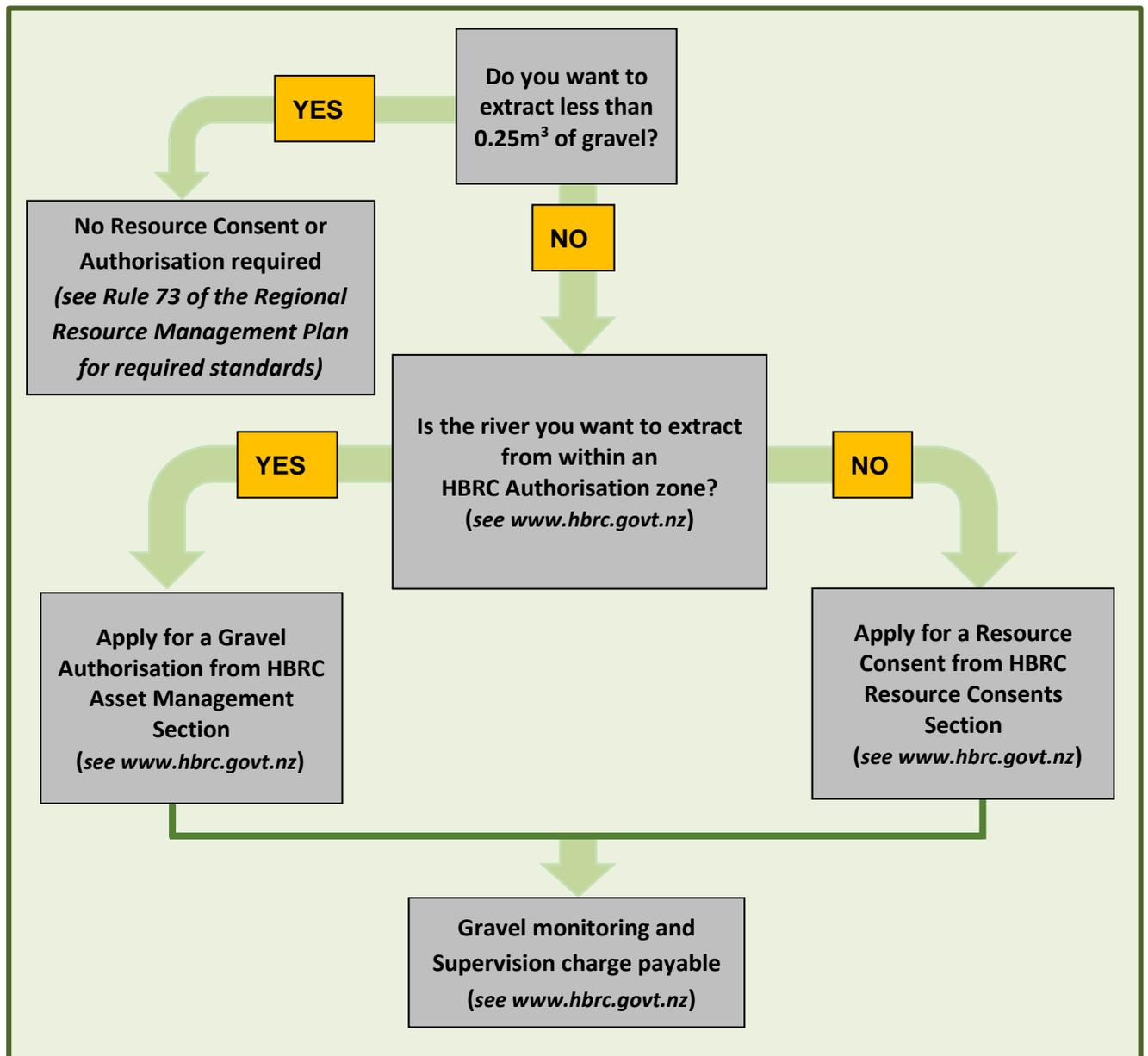
1. A "Gravel/Sand/Silt Requirement 1 July to 30 June" form (see www.xxxxx) will be issued to extractors for their completion and returned to the HBRC Asset Management Section.
2. HBRC Asset Management section will determine if the requested amount can be extracted sustainably, and the requested use for the gravel matches the gravel quality.
3. Following an assessment of the "Gravel/Sand/Silt Requirement" form, a document will be issued advising on gravel availability at the requested locations for information purposes only.
4. Gravel Authorisations are issued with Authorisation Conditions in <MONTH> each year.
5. At any time throughout the year an extractor can contact HBRC Asset Management section and request an Authorisation, but if the gravel has already been fully allocated, the Authorisation application may be declined at the requested location.
6. A Statutory Declaration form must be submitted recording the amount of gravel extracted. Compliance monitoring of the Authorisations conditions is undertaken by the Asset Section.
7. HBRC Asset Management section will recover the reasonable cost of managing gravel extraction on the same basis as a Resource Consent and Section 36 and 108 of the RMA (see Fees and Charges section).
8. Any money charged and not spent is returned on a *pro rata* basis back to the gravel extractors.

Resource Consent Process

1. Complete Resource Consent Forms xxx and xxx available at www.xxxx or directly from the HBRC Resource Consent Department.
2. Lodge the Resource Consent application with the Resource Consent Department.
3. For Resource Consent durations of 1 year or less and where no concerns exist over the sustainability of the resource, HBRC Resource Consent Department will use best endeavours to grant the consent within xxx days of receipt.
4. Where longer durations than 1 year are requested or where sustainability concerns surround the gravel resource at the requested location, a limited or publically notified process may be used.
5. HBRC Resource Consent Department will recover the reasonable cost of managing gravel extraction through Sections 36 and 108 of the RMA (see Fees and Charges section).

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Figure 2: Gravel Management Framework Process



Determining Gravel Allocation Volumes

The annual river cross section surveys and/or LIDAR surveys will be used as the primary information to determine gravel availability and allocable volumes. In some rivers, 'Grade Lines' have been determined that represent the target bed level for channel management. All of this information will be recorded, analysed and published within the Annual Riverbed Gravel Status Report.

Authorisations or Resource Consents will not be granted where the gravel resource is deemed to be over-allocated or unsustainable, unless localised aggradation is causing bank erosion or drainage issues.

Where HBRC does not maintain a river cross section monitoring network and the area is not within an Authorisation Zone, Resource Consent applications may have to be accompanied by data and information that demonstrates the gravel allocation requested is sustainable.

Resource Consent applications that request consent durations that exceed 1 year may attract consent conditions that require ongoing cross section and other monitoring throughout the duration of the Resource Consent.

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Fees and Charges

All fees and charges for managing the gravel resource are reviewed annually as part of Council's Long Term Plan or Annual Plan processes. As these fees and charges can change from year to year, please refer to these documents for the current fees and charges (www.xxxx).

HBRC fees and charges for gravel consist of the following:

- Resource consent application fee *or* Gravel Authorisation fee
- Gravel Monitoring and Supervision Charge

Resource Consent Application Fee

This fee is not applicable when gravel extraction is carried out under an HBRC "Authorisation". This fee is payable when applying for a Resource Consent to extract gravel in those areas not covered by an HBRC Allocation Zone (i.e. resource consent is not held by the HBRC Asset Management section).

A Resource Consent application is required to be made directly to HBRC's Resource Consent Department. The Consent Application fees are fixed each year in the Long Term Plan/Annual Plan process and are available at <insert link to webpage>

Gravel Authorisation Fee

This fee applies when gravel extraction is carried out within an Allocation Zone, and is payable to the Asset Section of HBRC. The fee is set annually as part of the Long Term Plan/Annual Plan processes. The current fee can be found at www.xxxx. The fee associated with an Authorisation is less than the fee for a Resource Consent.

Gravel Monitoring and Supervision Charge

This charge is made up of both RMA section 36 and 108 charges and is the amount payable per cubic metre of gravel extracted. This charge has been part of the existing gravel management charge for many years. The charge is payable whether operating under an HBRC Authorisation or under a Resource Consent to extract gravel. The charge under both is the same per cubic meter of gravel extracted. When operating under an Authorisation, the per cubic meter charge will be a condition of the Authorisation Contract between the Assets Section of HBRC and the gravel extractor. When Resource Consent is held directly by a commercial extractor, this charge will be an RMA s36/108 charge.

The basis for the section 36 and 108 charges is given below.

Section 36 Charge

Section 36 of the RMA enables HBRC to fix charges payable by holders of resource consents, for the carrying out of its functions in relation to the administration, monitoring, and supervision of resource consents for gravel extraction.

In fixing this charge, HBRC must have regard to a number of criteria including the following:

- The sole purpose of a charge is to recover the reasonable costs incurred by the local authority in respect of the activity to which the charge relates (s36 (4) (a) RMA). The word “activity” is used to refer to the local authority’s activity to which the charge relates (that is, the activity of administering, monitoring or supervising the resource consent), not the applicant’s proposed activity (the extraction of gravel).
- A particular person should only be required to pay a charge “where the need for the local authority’s actions to which the charge relates is occasioned by the actions of those persons (s36 (4) (b)(ii) RMA)”. In other words, HBRC can only require a consent holder to pay a charge if the consent holder did something which required HBRC to take action and the charge being recovered relates to that action.

The Section 36 portion of the charge funds the following HBRC activities:

- Riverbed cross section and LIDAR surveying and associated analysis
- Gravel particle size monitoring
- Engineering and scientific studies of the gravel resource
- Compliance visits to extraction sites
- Publishing an annual gravel report

As is the case with all resource consents, including water permits, the Section 36 charge is not a unit charge for the quantity of gravel extracted (i.e. a price for the resource), but rather a charge for the administration, monitoring, and supervision of the regions gravel resource.

The charging of Section 36 fees is not mandatory, that is, a Council can choose to charge or not. Hence, in relation to gravel, charges may be levied for some catchments and not others, dependant on Council resolutions.

Section 108 Charge

The Section 108 portion of the Gravel Monitoring and Supervision Charge is a Financial Contribution to the following HBRC activities:

- Construction or maintenance of roads, fences and gates that are used or will be used gain access to gravel extraction sites;
- Stopbank restoration or enhancement to offset the effects of gravel extraction on flooding;
- Strengthening or restoration of affected flood control or river stabilisation works;
- Replanting of vegetation removed, destroyed or damaged by gravel extractors accessing gravel extraction sites, or by the gravel extraction process;
- Downstream planting of riparian margins to offset erosion caused or exacerbated by gravel extraction.

HBRC has the relevant plan provisions which relate to Financial Contributions for gravel extraction within Section 8.3 of the RRMP.

The level of financial contribution is determined via the following process:

- The total annual cost of the works and services to be funded by the contributions (as determined in each year's annual plan prepared pursuant to the Local Government Act) divided by the total annual estimated volume of riverbed gravel extraction, thereby giving rise to a uniform financial contribution per cubic meter of gravel extracted;
- The final actual financial contribution sought will fairly and reasonably reflect the degree of arising as a result of the riverbed gravel extraction.

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Iwi Involvement in Gravel Management

Across New Zealand, iwi have long standing interests in freshwater, including the bed and banks of rivers and lakes that together make up the “*mauri*” or ‘life-force’ of the water body. To date, Treaty of Waitangi Settlements across the country and in Hawke’s Bay have recognised iwi interest in freshwater.

Hawke’s Bay iwi are currently involved in managing Hawke’s Bay’s freshwater resources via an agreed process on individual resource consent applications, during regional plan changes and more recently through the Joint Planning Committee.

The formation of a Joint Planning Committee is a key avenue which gives Mana Whenua input to plan change review processes, and allows the articulation of cultural values in respect to holistic waterway management, including management of the gravel resource. In turn, any such values can be incorporated into resource consent conditions where appropriate. An example of this already exists in respect to gravel, stemming from the Treaty of Waitangi Settlement for the Mohaka River and the resultant changes to the RRMP.

Under this GMP, HBRC commits to:

- Seeking ongoing iwi input and consultation on the Gravel Management Plan and its future versions;
- Ensuring that the ongoing work of the Joint Planning Committee will consider the suggested future plan changes outlined in this report;
- Working collaboratively with Iwi to identify Wahi Tapu and Mahinga Kai sites in and around rivers and resultant scheduling in future regional plan changes;
- Organising a gravel management ‘Hikoī’ to key gravel extraction sites for all key stakeholders, commercial gravel extractors and iwi, where current gravel management operations are explained and feedback given from a cultural perspective;
- Seeking Iwi involvement on the HBRC resource consent processes for long term gravel consents.

Environmental Management

While the majority of gravel extraction operations are undertaken on 'dry' riverbeds, at times 'wet' extraction can be required. It is therefore important to manage the potential environment effects of any gravel extraction operation within the river corridor.

The key flora and fauna issues are associated with protection of native fish, trout, macroinvertebrates and nesting riverbed bird species, and the control of invasive vegetation. Avoiding or mitigating the effects of gravel extraction operations on water quality is also fundamental to the protection of aquatic species.

As part of the GMP, HBRC commits to taking all reasonable steps to avoid or mitigate potential environmental effects of gravel extraction by:

- Reviewing and updating standard Resource Consent and Authorisation contractual conditions to avoid or mitigate environment effects of gravel extraction operations
- Incorporating the results of new environmental research into gravel management conditions
- Avoiding effects during the annual trout spawning period
- Good practice operational techniques for managing turbidity and avoiding the spread of invasive vegetation species
- Implementing a new spill management plan
- Ensuring the latest and most up to date version of the Code of Practice applies to gravel extraction operations and proactive training of contractors in its practical application
- Undertaking compliance monitoring of gravel extraction operations

Environmental Code of Practice for River Control and Waterway Works (2017 version)

The *Environmental Code of Practice for River Control and Waterway Works (2017 version)* (The Code or COP) is intended as a best practice approach for avoiding and mitigating the effects of works in and around waterways.

The Code is available at www.xxxxx.

Previous versions of the Code have been routinely used in the field by contractors and are often specified within resource consent conditions issues by HBRC.

A new 2017 Version of The Code has now been published and contains practical and best practice methods for gravel extraction operations.

In the past, HBRC Asset Management section has proactively run training days for contractors in application of The Code and training in the new version will be organised or provided on request.

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Research and Monitoring of the Gravel Resource

A good understanding of the gravel resource is essential to its ongoing management. As part of this GMP, HBRC commits to a research plan for gravel that builds on research and monitoring carried out to date.

A large number of previous reports on the various aspects of gravel management now exist, and many contain recommendations for future research. The gravel research plan will be a comprehensive and consolidated plan covering all aspects of gravel management, and will consist of seven areas of research:

- Geomorphological monitoring and investigations
- Sediment transport prediction
- River bed level monitoring
- Petrological and geotechnical studies
- Cultural investigations and monitoring
- Environmental monitoring
- Aggregate source inventory

These research areas will be scoped in detail and considered via forthcoming Long Term Plan/Annual Plan processes before adoption and implementation.

Irrespective of future research, HBRC will continue to undertake annual river cross section and/or LIDAR surveying and will commence gravel particle size monitoring, as these are fundamental to the ongoing management of the resource.

Each year an Annual Gravel Status Report will be published summarising the findings of the routine monitoring undertaken and any new research completed. This report will be used as the basis for the Resource Consent Department to consider any applications lodged directly by commercial extractors.