

24.0 Mineral Extraction

24.1 Introduction

Apart from gravel, sand, rock, limestone and salt extraction in relatively small quantities mineral extraction is not a strong economic feature of the Wairau/Awatere planning area. Gravel extraction from rivers assumes some importance in the lower Wairau Plain in particular, where it is an integral component of floodplain and river management.

In promoting the principle of sustainable management, the Council has a responsibility to ensure that any adverse effects from the extractive industry are avoided, remedied or mitigated.

24.2 Issue

Mineral extraction, including prospecting and exploration can have adverse effects on the environment.

While producing economic returns and providing employment in the District, mining can result in adverse impacts on the natural, physical and social environment of an area, including landscape changes, loss of natural ecosystems and conflicts with other land and water users, particularly recreational activities. Poorly situated or managed extraction activities can cause a loss of visual amenity, or nature conservation values; or a loss of rural amenity through noise, dust, blasting, or heavy traffic during extraction operations. Gravel pits can also penetrate or interfere with the shallow water bearing gravels used for irrigation or domestic use. Poorly managed rehabilitation and stormwater control can result in large quantities of sediment entering the District's waterbodies, with significant loss of water quality and in-stream values. Extraction in steep hillslope and mountainous areas can affect stability of hillslopes and terraces. These impacts are dependent on the sensitivity of the area, the scale of the operation, and how well the operation is managed.

24.3 Objectives and Policies

Objective 1 To avoid, remedy or mitigate adverse effects on the environment from mineral extraction, including prospecting and exploration.

Policy 1.1 Recognise the potential adverse effects of commercial extractive activities, including mineral exploration, on the rural environment, other recreational resources and users, and on the road network, and to require consent for such operations, in order that an assessment may be made as to the sensitivity of an area and the degree to which an operation will avoid, remedy or mitigate any adverse effects to the amenity and environment of a rural area, including the surface and beds of waterbodies.

Policy 1.2 Ensure that during and after mining, sites are progressively rehabilitated in a planned and co-ordinated manner, to enable the establishment of a land use appropriate to the area.

Policy 1.3 Recognise prospecting and small-scale exploration as activities with limited environmental impact for any area not having particular ecological significance.

The Council believes that provided appropriate measures are undertaken during the process of establishing extractive industries, these can be successfully accommodated within the Plan area.

24.4 Issue

The effectiveness of river channels and their ecology is affected by the build up (aggradation) of gravel and sediment by natural processes; or also affected by excessive depletion, often by commercial extraction, of this valuable resource. The control of gravel and sediment extraction from a river has environmental, river control and commercial consequences.

Rivers are dynamic natural processes carrying sediments eroded from their catchments out to the sea.

Sometimes the sediment transport carrying capacity of the river is greater than the supply rate, which then can lead to erosion of its riverbanks and riverbed and possibly changes to ground water recharge. This effect can be accentuated by excessive gravel extraction from the river.

Where a river reach is in balance with no net deposition it is said to be in regime.

The natural geology of the catchment, tectonic activity, whether the sea is readily removing sediments from the river mouth, and changes in flow regime are the major factors affecting whether a river is aggrading, eroding or in regime. Catchment vegetation is another, usually secondary, factor.

For the main Wairau floodplain the coastline is prograding and this is a major factor in gravel building up in the Wairau River channel downstream of Jeffries Road. The aggradation of gravel in this reach is also probably affected by the change in flow regime with the blocking off of the Opawa channel at Conders Bend in 1914.

Sediment deposition is occurring for the Lower Wairau since the change in flow regime with the Wairau Diversion construction in 1964 and its continual enlargement.

Conversely the Awatere River is entrenched below a historical floodplain for most of its length by a combination of the sea removing its transported sediment and geological factors.

The upper reaches of the Wairau River and its tributaries are more dynamic with waves of gravel and sediment moving through due to storm activity. These upper catchment river reaches appear to have a cyclic aggradation/erosion pattern with no clear indications of channel aggradation. The same can be said for the Clarence and Waima (Ure) River systems.

Gravel and sand is a valuable commercial commodity. In the Wairau/Awatere area the amount of gravel and sand required by industry can at present be adequately supplied from the riverbeds.

The manner in which gravel and sediment is extracted can also be seriously detrimental to environmental and ecological factors associated with the riverbed.

Control of where and when gravel extraction takes place from riverbeds is therefore a significant issue.

24.5 Objectives and Policies

Objective 1	To manage gravel and sand extraction to improve the efficient and effective performance of river channels and floodway systems, especially the stopbanked floodways of the main Wairau floodplain.
Policy 1.1	To encourage gravel extraction from the Wairau River floodway system downstream of Jeffries Road and in the vicinity of Tuamarina Bridge in particular.
Policy 1.2	To discourage gravel extraction from reaches of the rivers where it is detrimental to bank stability and flooding or would contribute to other environmental detriment.
Policy 1.3	To allow for commercial gravel extraction from other river reaches.
Objective 2	To ensure gravel and sediment extraction is carried out in a manner that avoids, remedies or mitigates environmental effects.
Policy 2.1	In assessing the effects of gravel extraction from any particular location to give regard to the effects on water quality, natural character of the riverbed, indigenous vegetation and fauna, public access, Maori values, amenity values, ecological factors, habitat of trout and salmon, bank stability and groundwater recharge.

On the main Wairau floodplain the Wairau River is aggrading downstream of Jeffries Road to such an extent as to be reducing its stopbanked floodway capacity to less than the required design size. This includes the Lower Wairau and parts of the Wairau Diversion. A practical option to address the problem is to encourage gravel extraction from this reach.

Most other stopbanked river floodways on the main Wairau floodplain are not aggrading and gravel extraction should be discouraged. This includes the Wairau River from Jeffries Road up to the Waihopai confluence, from the Waihopai up to SH 63, from the Omaka up to Hawkesbury Road Bridge, and the Taylor below Taylor dam.

It is preferable to supply the commercial demand for gravel in the Wairau floodplain area from the Wairau downstream of Jeffries Road to benefit the Wairau River and floodway system than to increase potential river channel degradation by permitting continuing extraction from the Omaka, Taylor and Wairau above Jeffries Road.

Gravel extraction has the potential to seriously disrupt the riverbed environment and many of the aspects listed in the Resource Management Act as requiring specific attention. This varies on a river by river and a site by site basis. Attention must be given to ensure that environmental factors of the river bed are not adversely affected.

24.6 Methods of Implementation

Council Activities	<p>The Council will deliberately extract gravel and sediment from identified sites at suitable river flows and stockpile outside the river channel for later resale or disposal in accordance with the Marlborough Rivers Code of Practice.</p> <p>Financial incentives will be used by the Council to encourage gravel extraction from particular areas.</p> <p>Access to the various gravel extraction sites will be controlled in areas of concern to reduce nuisance to the public.</p>
Rules	<p>Rules are included to control extractive operations, mineral exploration and larger-scale recreational mining. Assessment criteria are provided to protect the environment and amenity of rural areas.</p> <p>Rules will also be used to control the manner in which gravel extraction is carried out so as to minimise any detrimental impact on the environment.</p> <p>Rules will be made to prohibit gravel pits on normal rural land outside the river channels.</p> <p>Rules will be made to limit the amount and in some circumstances prohibit gravel extraction from various river reaches.</p>
Education	Regular meetings will be held with gravel extractors.
Information	An information base will be developed as to the availability of gravel in various river reaches available for extraction and the quality of this gravel.
Guidelines	Provide information on appropriate land use practices and encourage use of voluntary guidelines and best practices.

The Council considers that controls are necessary with respect to the extractive activities, including larger-scale recreational mining, because the scale of the operations, the sensitivity of the area, and because the management of the operations may vary considerably. Consequently the effects on amenity values such as privacy, rural outlook, spaciousness and quietness or the effects on remoteness, recreational or conservation values may vary considerably. For these issues to be adequately addressed the Council considers individual proposals need to be assessed on their merits. This will also enable the Council to set conditions on the management of the operation that are appropriate to the scale of the operation and sensitivity of the area.

Rules are the most effective way of ensuring that gravel extraction is carried out in a manner that meets other objectives of this Plan regarding environmental and ecological factors.

The co-operation of gravel extractors is required. Education techniques will enable gravel extractors to understand the broader consequences of their operations.

An information base is required on which the Council can base its decisions on how much gravel or other sediment can be extracted at which site and what the potential concerns at that site are.

24.7 Anticipated Environmental Results

- Utilisation of mineral resources within the District, providing that the scale of each operation and its effects, both short and long-term, are appropriate to the environment;
- Water quality maintained and enhanced;
- Maintenance of landscape values including spaciousness, notable landforms, extensive indigenous vegetation cover, and views and panoramas;
- Protection of the areas which have significant natural conservation value;
- Retention of the indigenous bio-diversity of the District and its remaining indigenous ecosystem functioning;
- Protection of habitat for birdlife and fish which occur on beds of rivers; and
- Improvement of the flood waterway capacity of flood prone river systems.

