



1.1 FORESTRY QUARRYING (REGULATIONS 50 – 61)

1.1.1 Overview of plantation forestry activity

Forestry quarrying is a regulated activity under Regulation 5(1)(e) of the NES-PF. The NES-PF regulations for three ancillary activities (Part 2, subpart 9) and the general provisions (Part 2, subpart 10) must also be complied with as relevant when undertaking *forestry quarrying*.



Forestry quarrying is defined in the NES-PF as:

- (a) means the extraction of rock, sand, or gravel for the formation of forestry roads and construction of other plantation forest infrastructure, including landings, river crossing approaches, abutments, and forestry tracks; -
- i. within a plantation forest; or
 - ii. required for the operation of a plantation forest on adjacent land owned by or managed by the owner of the plantation forest; and
- (b) includes the extraction of alluvial gravels outside the bed of a river, extraction of minerals from borrow pits, and the processing and stockpiling of material at the forest quarry site; but
- (c) does not include earthworks, mechanical land preparation, or gravel extraction from the bed of a river, lake, or other water body.

Many large *plantation forests* have dedicated forestry quarries within the boundaries of the *plantation forest* that extract material for the construction of *forestry roads*, *forestry tracks* and other *forestry infrastructure*. In smaller first-rotation *plantation forests*, rock and gravel may have been extracted from suitable sources near the construction of *forestry roads* and other *forestry infrastructure*, resulting in a number of small extraction sites (also known as borrow pits).

The distinction between *forestry quarrying* and *earthworks* in clause (c) of the definition above is important. For example, if *earthworks* are being carried out and in the course of *earthworks* the material excavated is suitable to be used for road construction, this activity is still *earthworks* – it is not a forestry quarry. A forestry quarry is where you excavate solely for the purpose of extracting material.

In addition to the NES-PF regulations relating to *forestry quarrying*, there are specific quarrying regulations under the Health and Safety at Work Act 2015¹ that foresters need to comply with.

1.1.2 Potential adverse environmental effects

Forestry quarrying can have similar adverse effects to *earthworks* in relation to soil and slope stability, sedimentation and adverse effects on water quality. There are also potential adverse effects from *forestry quarrying* on landscapes and amenity values (e.g. from noise

¹ The Health and Safety at Work (Mining Operations and Quarrying Operations) Regulations 2016, refer: <http://www.legislation.govt.nz/regulation/public/2016/0017/latest/DLM6732829.html>



and visibility). In highly erosion-prone areas, where quarry material is likely to be in rocky outcrops, the key environmental risk relates to *overburden* disposal.

1.1.3 Permitted activity and conditions

Forestry quarrying is a permitted activity if:

- **Territorial authority** – regulations 52(1) and (2), 53, 54(1) and (2), and 57 are complied with
- **Regional council** – the quarry is located in a *green zone*, *yellow zone*, or *orange zone* (except earthflow terrain) and regulations 52, 54(3) and (4), 55, 56, 58, and 59 are complied with.

A summary of the permitted conditions for *forestry quarrying* is provided in Table 1. Sections 1.1.5 to 1.1.12 provide more detailed guidance on these conditions to assist with interpretation and implementation. For exact wording of the conditions, refer to the NES-PF which can be accessed through the hyperlinks below.

Table 1: Summary of permitted activity conditions for *forestry quarrying*.

Condition	Territorial Authority	Regional Council
Notice (Regulation 52)	<p>If the volume extracted from a forest quarry is more than 200m³ in any calendar year, written notice must be given of the proposed quarrying location, <i>setbacks</i>, and planned start and end dates.</p> <p>Notice must be given at least 20 and no more than 60 working days before the planned start date, or annually for ongoing <i>forestry quarrying</i>.</p>	<p>If the volume extracted from the forest quarry is more than 200m³ in any calendar year, written notice must be given of the proposed quarrying location, <i>setbacks</i>, and planned start and end dates.</p> <p>Notice must be given at least 20 and no more than 60 working days before the planned start date, or annually for ongoing <i>forestry quarrying</i>.</p> <p>If the council requests a copy of the plan it must be supplied within five working days of the date by which the plan must be in place (under regulation 59(3)).</p>
Visibility (Regulation 53)	<p>A forest quarry within 2km of a <i>dwelling</i> under different ownership or management from the land where the quarry is located, where the quarry is visible from the <i>dwelling</i>, must not –</p> <ul style="list-style-type: none"> • Quarry more than 5000m³ of material within a 5-year period; and • Be closer than 500m from any other quarry at which <i>forestry quarrying</i> exceeds 200m³ per calendar year. 	N/A
Setbacks (Regulation 54)	<p>New <i>forestry quarrying</i> must not be undertaken within 500m of:</p> <ul style="list-style-type: none"> • A <i>dwelling</i> under different ownership or management from the land on which the forest quarry is located; or 	<i>Forestry quarrying</i> must not be undertaken within the following <i>setbacks</i> :



Condition	Territorial Authority	Regional Council					
	<ul style="list-style-type: none"> The boundary of an <i>urban area</i> or a <i>papakāinga</i>. <p>Excavated <i>overburden</i> must not be deposited within 20m of an adjoining property under different ownership or management from the land on which the forest quarry is located.</p>	<table border="1"> <thead> <tr> <th data-bbox="911 275 1150 313">20m</th> <th data-bbox="1150 275 1386 313">30m</th> </tr> </thead> <tbody> <tr> <td data-bbox="911 313 1150 611"> <ul style="list-style-type: none"> <i>Perennial river</i>; or <i>Wetland</i> larger than 0.25ha' or Lake larger and 0.25ha </td> <td data-bbox="1150 313 1386 611">Coastal marine area</td> </tr> </tbody> </table>	20m	30m	<ul style="list-style-type: none"> <i>Perennial river</i>; or <i>Wetland</i> larger than 0.25ha' or Lake larger and 0.25ha 	Coastal marine area	
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<p>Deposition, stabilisation, and restoration (Regulation 55)</p>	N/A	<p>Excavated <i>overburden</i> must not be deposited:</p> <ul style="list-style-type: none"> Where it may cause failure of the material or underlying land; or Over <i>slash</i> or woody vegetation; or Into a <i>water body/coastal water/significant natural area</i>/within a setback referred to in Regulation 54(3) or (4); or Onto land where it may result in <i>sediment</i> entering water. <p><i>Overburden</i> and exposed spoil generated from quarrying activities must be stabilised within 6 months of exposure to prevent erosion and <i>sediment</i> export.</p> <p>No <i>topsoil</i> stripped from the surface of the land must be removed from the property.</p> <p>Within 2 months of the quarry being deactivated, the land must be restored to a stable land form.</p>					
<p>Sediment and stormwater control measures (Regulation 56)</p>	N/A	<p><u><i>Sediment</i></u></p> <p><i>Sediment</i> originating from <i>forestry quarrying</i> must be managed to ensure that, after reasonable mixing, it does not cause the following effects in receiving waters:</p> <ul style="list-style-type: none"> A conspicuous change in colour or clarity; or Rendering fresh water unsuitable for consumption by farm animals; or Significant adverse effect on aquatic life. <p><u><i>Sediment and storm water control measures</i></u></p>					



Condition	Territorial Authority	Regional Council
		<ul style="list-style-type: none"> • All disturbed soil must be stabilised or contained to avoid it causing: <ul style="list-style-type: none"> ○ The diversion or damming of any <i>water body</i>, or ○ Damage to downstream infrastructure, property, or receiving environments. • <i>Stormwater, water run-off, and sediment control measures</i> must be installed and maintained. • Batters, cuts, and side cast construction must use methods that maintain stability.
Traffic management (Regulation 57)	Forestry quarry material must not be transported on a public road unless: <ul style="list-style-type: none"> • Material is being transported to a property under the same ownership or management as the <i>plantation forest</i>; and • Debris and soil is removed from wheels of vehicles transporting quarry material before vehicles exit the property on which the quarry is located; and • Material is transported 2km or less; and • Vehicles carrying material do not travel through an <i>urban area</i> or area zoned primarily for rural residential or country living activities in a district plan or proposed district plan. 	N/A
Aquifers (Regulation 58)	N/A	The deepest excavation of a quarry must not extend: <ul style="list-style-type: none"> • Into the <i>aquitard</i> above a <i>confined aquifer</i>; or • Within 1m of the <i>seasonal high-water table</i> level above an <i>unconfined aquifer</i>.
Quarry erosion and sediment management plan (Regulation 59)		A quarry erosion and <i>sediment</i> management plan must: <ul style="list-style-type: none"> • Be prepared for any forest quarry if the volume extracted exceeds 200m³ in any calendar year; • Contain the details required by Schedule 4;



Condition	Territorial Authority	Regional Council
		<ul style="list-style-type: none"> • Identify environmental risks and provide measures to avoid, remedy or mitigate adverse environmental effects; and • Be in place at least 20 working days before <i>forestry quarrying</i> begins; and • Be provided to council upon written request (and provided annually if requested). <p><i>Material amendments</i> to the plan must be documented and dated, the relevant council must be advised that an amendment has been made and the amended plan must be made available to the relevant council on request.</p> <p>All quarrying activities must be undertaken in accordance with the plan.</p>

1.1.4 Determining whether a resource consent is required

The flow chart in Figure 1 shows the process to determine whether *forestry quarrying* needs resource consent, the activity status when consent is required, and whether consent is required from the relevant regional council and/or territorial authority. *Forestry quarrying* is also required to comply with the regulations for ancillary activities (Part 2, subpart 9) and the general provisions (Part 2, subpart 10) as relevant to be a permitted activity.

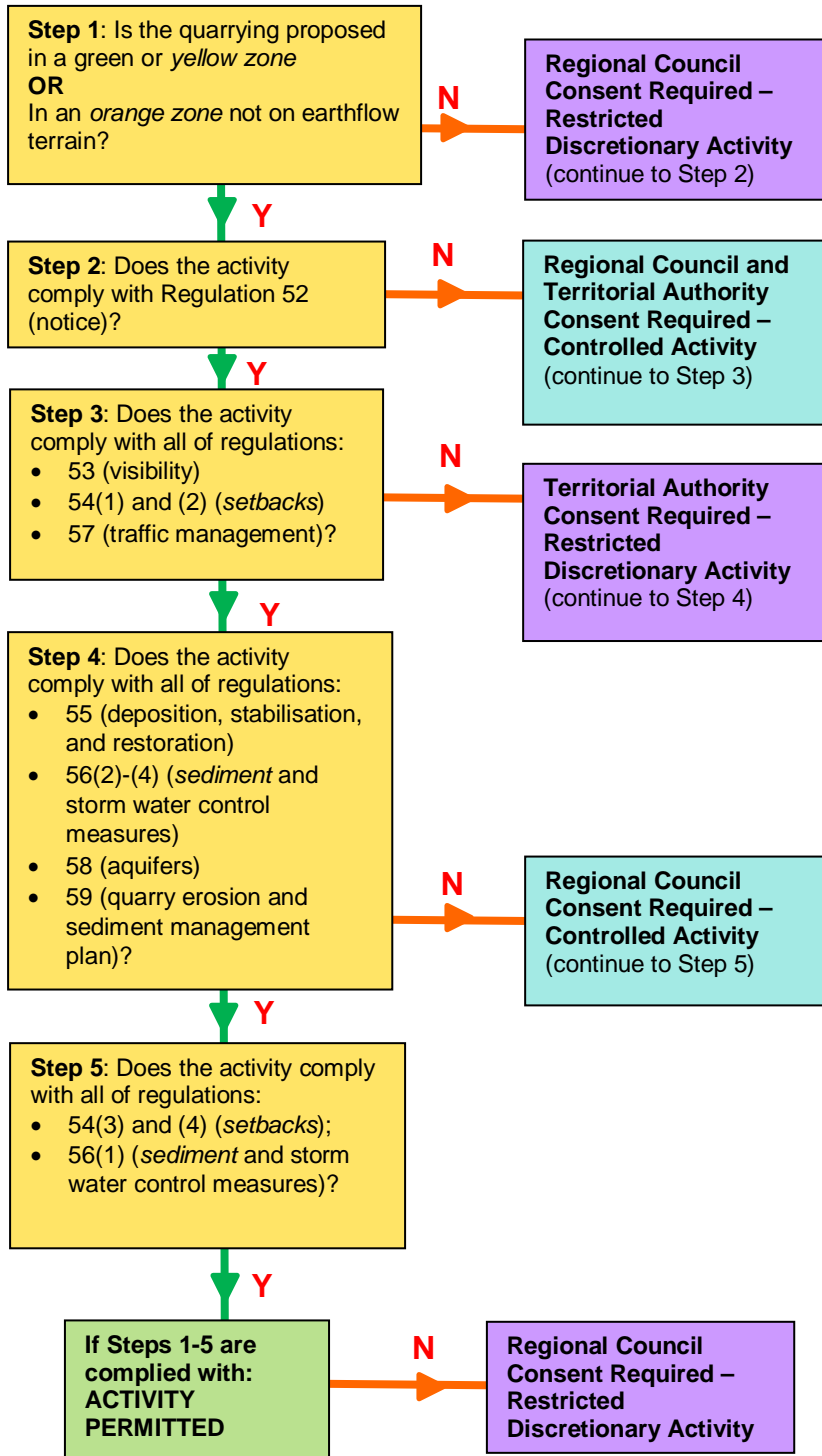


Figure 1: Flow chart to determine when resource consent is required for forestry quarrying.

1.1.5 Regulation 52(1) – Notice

Foresters are required to give the relevant regional council and territorial authority notice of *forestry quarrying* if the volume extracted exceeds 200m³ in a calendar year, which will generally be exceeded by most quarries. Determining whether notice is needed will require foresters to make an estimation of the likely extraction volume prior to beginning the activity and annually thereafter. It is important to consider the likely volume of material to be extracted in advance as Regulation 52(2)(a) requires notice to be provided at least 20



working days before the date the *forestry quarrying* is planned to begin (but no more than 60 working days).

Once it is determined that notice is required for *forestry quarrying*, the notice to the relevant council must include:

- **Details on the place of the forestry quarrying** – this should provide an accurate description of the quarry's location with supporting maps where appropriate.
- **Details of proposed setbacks (including a description of how these are calculated)** – measurement will generally be on the ground or using a map but it may also be useful to clarify how certain boundaries were calculated where these are less obvious.
- **The planned start and end date of the forestry quarrying** – this should be as accurate as possible while recognising that in many cases the exact end date for *forestry quarrying* will not be known prior to the activity commencing and some flexibility is required.

Section 5.2 of the [NES-PF Consenting and Compliance Guide](#) provides more detailed guidance on the notice provisions in the NES-PF, including timeframes, and formally receiving and acknowledging notice.

1.1.6 Regulation 53 – Visibility

Regulation 53 manages the visual effects of forest quarries within 2km of a *dwelling* under different ownership or management from the land on which the quarry is located, where the quarry is visible from that *dwelling*. It includes two conditions:

- Regulation 53(a) places a limit on the maximum amount of extraction (no more than 5000m³) than can occur within a five-year period. This effectively restricts the size of a quarry where this is visible from a dwelling.
- Regulation 53(b) places limits on the proximity of other quarries (where the quarrying exceeds 200m³ per calendar year) to the visible quarry (must not be closer than 500m). This manages the cumulative visual effects of quarries where they are visible from dwellings.

Determining whether a forestry quarry is visible from a *dwelling* within 2km of the quarry will generally necessitate a site visit to that dwelling, although in some cases it will be obvious without a site visit. The visibility of the forestry quarry may also change during the quarry operation due to the use or loss of screening or an increase in the size of the forestry quarry.

Regulation 53 is a territorial authority regulation, meaning that existing use rights under section 10 of the RMA apply to forestry quarries that were lawfully established prior to the NES-PF coming into force. Section 2 of the [NES-PF Consenting and Compliance Guide](#) provides more detailed guidance on existing use rights under the NES-PF.

1.1.7 Regulation 54 – Setbacks

Section 4.3 of the [NES-PF User Guide](#) provides general guidance on the NES-PF setbacks, including how to measure the setbacks in Regulations 54(1), 54(3) and 54(4).

Regulation 54(2) sets out requirements for excavated *overburden* not to be deposited within 20m of an adjoining property under different ownership or management from the land which the forestry quarry is located. *Overburden* is defined in the NES-PF as '*the overlying soil and rock that is removed to allow quarrying of the underlying material*'. This material can cause adverse visual and amenity effects on adjoining properties if not well managed and Regulation 54(2) seeks to manage these effects. Where practicable, *overburden* should be located further away than 20m from adjoining properties, particularly when *dwellings* or sensitive land uses are near the boundary.



1.1.8 Regulation 55 – Deposition, stabilisation and restoration

To extract the desirable rock, *forestry quarrying* often involves removing overlying layers of unsuitable material – referred to as *overburden*. This may be *topsoil* – which defined in Regulation 55 as ‘*the surface layer of soil, enriched by organic matter and dark brown to black in colour, to a maximum depth of 25 cm*’. It may also include deeper material overlying the desirable rock. The amount of *topsoil* and deeper material to be removed will depend on how deep the desirable material is.

To avoid stability issues and adverse effects on water bodies, Regulation 55(1) controls where excavated *overburden* is deposited. It will generally be obvious if *overburden* has been deposited in one of the areas referred to in Regulation 55(1), such as on areas of *slash*. It is in the forester’s interest to place *overburden* on stable areas and away from areas where it may cause *sediment* and erosion problems. This will typically be somewhere on flat land, away from *slash* and waterbodies. Regulation 55(2) also requires *overburden* and exposed *spoil* to be stabilised within months of exposure to prevent soil erosion and sedimentation. This may involve covering or vegetating the *overburden* to achieve stabilisation.

To achieve restoration of the quarry site:

- Regulation 55(3) requires that *topsoil* must be retained on the property it is stripped from for the future restoration of the land.
- Regulation 55(4) requires that within two months of the quarry being deactivated, the land must be restored to a stable land form.

1.1.9 Regulation 56 – *Sediment* and storm water control measures

Regulations 56(1), 56(2) and 56(3) are intended to work together – the stabilisation and containment of soil and the installation and maintenance of appropriate storm water, water run-off and *sediment control measures* will help ensure the water quality standards in Regulation 56(1) are complied with. Section 4.9 of the [NES-PF User Guide](#) provides general guidance on the conditions in the NES-PF relating to the effects of sediment discharges in receiving waters.

Examples of suitable control measures to stop and slow water in order to reduce sedimentation are outlined in section 4.8 of the [NES-PF User Guide](#). The most appropriate storm water, water run-off and *sediment control measures* for *forestry quarrying* will need to be determined on a case-by-case basis and will depend on the size and location of the *forestry quarry* and site-specific factors such as topography, rainfall, and proximity to waterbodies. Foresters need to decide which measures will be the most suitable for their particular site and activity and to record these in the quarry erosion and *sediment* management plan. Foresters may also draw on existing council and industry guidance to identify appropriate storm water, water run-off and *sediment control measures* for their forestry quarry.

1.1.10 Regulation 57 – Traffic management

Regulation 57 manages the effects of transporting material from a *forestry quarry* on public roads by only allowing this to occur as a permitted activity if all of 57(a)-(d) are complied with. It places restrictions on:

- Where quarry material can be transported to – it must be to a property under the same ownership or management as the *plantation forest* it originated from.
- The distance the quarry material can be transported – 2km or less.
- The transportation route – quarry material cannot be transported through *urban areas* (refer to section 4.6 of the [NES-PF User Guide](#) for an explanation of *urban areas*) and



areas that are zoned primarily for rural residential or country living activities in a district plan or proposed district plan. This effectively means that quarry material can be transported through areas zoned in a district plan or proposed district plan primarily for rural activities².

Regulation 57 is not intended to manage the adverse effects of trucks transporting forest quarry material on public roads. The restrictions on where quarry material can be transported to (Regulation 57(1)) and the distance quarry material can be transported (Regulation 57(3)), is to ensure that quarried material is used within the *plantation forest* (as opposed to being trucked offsite for other activities). This also helps ensure that the size of the quarry stays proportionate to the needs of the immediately surrounding *plantation forest*. The 2km maximum travel distance is to give foresters some flexibility to transport quarry rock between different parts of their forest where short trips on public roads might be needed.

Regulation 53 is a territorial authority regulation meaning that existing use rights under section 10 of the RMA apply to forestry quarries that were lawfully established prior to the NES-PF coming into force. Section 2 of the [NES-PF Consenting and Compliance Guide](#) provides more detailed guidance on existing use rights under the NES-PF.

1.1.11 Regulation 58 – Aquifers

Regulation 58(2) includes some specific definitions relating to Regulation 58(1) as follows:

aquifer means a water-saturated zone of the ground that will yield groundwater to bore and springs at a sufficient rate to serve as an adequate source of water

aquitard means a low-permeability soil layer that restricts the flow of groundwater from one aquifer to another

confined aquifer means a saturated water-bearing formation that does not have a free water table and is protected by an aquitard from surface contamination

seasonable high water table means the highest groundwater elevation that the water table has reached between the months of June and August (inclusive) at the time the activity is established

unconfined aquifer means a saturated water-bearing formation that has free water table and is not protected by an aquitard from surface contamination.

There is a relationship between Regulation 58(1)(b) and Regulation 6(3)(d) – the latter allows more stringent rules to prevail over the NES-PF when the rule manages *forestry quarrying* activities over a shallow water table (less than 30m below ground level) that is above an *aquifer* used for human drinking water supply. Essentially, the distinction between the two regulations are:

- Regulation 58(1)(b) manages the depth of *forestry quarrying* above **all aquifers**.
- Regulation 6(3)(b) allows plan rules to be more stringent where they manage *forestry quarrying* activities over **aquifers used for human drinking water supply**.

1.1.12 Regulation 59 – Quarry erosion and *sediment* management plan

Regulation 59 requires the preparation of a quarry erosion and *sediment* management plan for *forestry quarrying* where the volume of material extracted exceeds 200m³ in a calendar year, which is likely to be exceeded by most quarries. The purpose of the quarry erosion and *sediment* management plan is to ensure environmental and site-specific risks associated with *forestry quarrying* are identified and managed up-front. The quarry erosion and *sediment* management plan must:

² Potentially also open space zones and special purpose areas that are not zoned primarily for rural residential activities and do not meet the definition of *urban areas*.



- Be provided to the relevant regional council on written request.
- Be in place 20 working days before *forestry quarrying* begins.
- Contain the information required in Schedule 40.

Key requirements in the quarry erosion and *sediment* management plan include:

- Identification of waterbodies and on-site risk areas.
- Details of the management practices that will be used to avoid, remedy or mitigate the effects of quarrying, with **sufficient detail to enable a site audit to be carried out**.
- Erosion and *sediment control measures* to be used.
- How the quarry will be restored after quarrying ceases.

Forestry quarrying must be undertaken in accordance with the plan.

Regulation 59 is a regional council function and the quarry erosion and *sediment* management plan is focused on managing erosion and *sediment* related effects, not effects from *forestry quarrying* that fall within territorial authority functions (e.g. visibility from dwellings, traffic management).

Section 5.3 of the [NES-PF Consenting and Compliance Guide](#) provides more information on management plan preparation, receipt and review, and *material amendments* to management plans.