

1.1 SLASH TRAPS

1.1.1 Overview of ancillary activity

Slash traps are an ancillary activity regulated under Regulation 5(1)(i). *Slash trap* is defined in the NES-PF as:

a structure set in a river, on the bed of a river, or on land to trap slash mobilised by water

Slash or debris traps are structures that catch larger pieces of *slash* that would otherwise be flushed out of a catchment in high flow conditions. *Slash* is defined in the NES-PF as 'tree waste left behind after plantation forestry activities'.

The aim of the *slash trap* is to reduce the risk of *slash* leaving the *plantation forest* and limiting its potential adverse effects if it does. It achieves this by limiting the amount of mobilised *slash* that is transported and potentially deposited on downstream properties and infrastructure during high rainfall events. *Slash traps* are generally used during and after *harvesting* when the harvested tree roots start to rot and/or where there is a need to reduce the amount of *slash* moving downstream.

Slash traps are generally made with railway irons threaded with wire rope and anchored solid at each end. Refer to Figure 1 below.



Figure 1: Photo of slash trap.

1.1.2 Potential adverse environmental effects

Well designed, constructed and maintained *slash traps* can be effective at mitigating adverse environmental effects. However, they can also result in adverse environmental effects when debris builds up behind the structure creating a weir or scouring the bank and river bed. If not designed properly, *slash traps* can also result in the mobilisation of large amounts of built up *slash* in a heavy rainfall event, causing adverse effects on downstream properties and receiving environments. *Slash traps* may also alter the natural alignment of the river bed if not designed properly.

1.1.3 Permitted activity and conditions

The construction, installation, use, maintenance, or removal of a *slash trap* on land, including land within the *riparian zone*, is a permitted activity in relation to **territorial authority** functions. There are no permitted activity conditions.

In relation to **regional council** functions, the construction, installation, use, maintenance, or removal of a *slash trap* in the bed of a river or on land is a permitted activity if regulations 84 to 91 are complied with.



A summary of the permitted conditions for *slash traps* is provided in Table 1. Sections 1.1.5 to 1.1.8 provide more detailed guidance on these conditions to assist with interpretation and implementation. For the exact wording of the conditions, refer to the NES-PF which can be accessed through the hyperlinks in the table.

Table 1: Summary of permitted activity conditions for *slash traps*.

Condition	Regional Council
Design (Regulation 84)	<ul style="list-style-type: none"> Design must allow water to flow through freely and not dam the river. Height must be no higher than 2m above the bed of the river.
Placement (Regulation 85)	<ul style="list-style-type: none"> Where upstream catchment is greater than 20ha, a <i>slash trap</i> must not be located within the <i>bankfull channel width</i> of the river. <i>Slash trap</i> must be located to allow machine access for clearing and maintenance.
Inspection and clearance (Regulation 86)	<ul style="list-style-type: none"> A <i>slash trap</i> must be: <ul style="list-style-type: none"> Inspected within 5 working days of any significant rainfall event in the upstream catchment likely to mobilise debris; Cleared of debris at least 20 working days following a 5% AEP flood event; and Maintained to avoid erosion of the river bed and maintained in a structurally sound and effective condition. Cleared <i>slash</i> must be removed to a safe and stable location beyond the river bed and land covered by a 5% AEP flood event.
Effects on other structures and user (Regulation 87)	<p>A <i>slash trap</i> must not:</p> <ul style="list-style-type: none"> Alter the natural alignment or gradient of the river; Compromise the structural integrity or use of any other lawfully established infrastructure or activities in the bed of river or lake; or Cause flooding or ponding on any property under different ownership from that of the <i>plantation forest</i>; or Cause or induce erosion of the river bed, or erosion or instability of the banks of the river.
Passage of fish (Regulation 88)	<p>A <i>slash trap</i> must be designed, located, and maintained to provide for the passage of fish.</p>
Contaminant discharges (Regulation 89)	<p>If a <i>slash trap</i> is being constructed, installed, removed, maintained, or cleared:</p> <ul style="list-style-type: none"> The activity must not release contaminants into the water (other than <i>sediment</i>). All practicable steps must be taken to: <ul style="list-style-type: none"> Avoid depositing organic matter or discharging <i>sediment</i> to water (either into a <i>water body</i>, or onto the bed of river or land in circumstances that may result in it entering water); Minimise disturbance of the river bed; and Avoid wet concrete or concrete ingredients coming into contact with flowing or standing water. Elevated <i>sediment</i> levels in a river resulting from the construction, installation, maintenance, or removal of a <i>slash trap</i> must not occur for more than 8 consecutive hours; and Excess materials and equipment must be removed from the river bed within 24h of completing the construction, installation, maintenance or removal of a <i>slash trap</i>.



Condition	Regional Council
Sediment (Regulation 90)	<p><i>Sediment</i> must be managed to ensure that, after reasonable mixing, it does not give rise to following effects in receiving waters:</p> <ul style="list-style-type: none"> • A conspicuous change in colour or visual clarity; • Rendering fresh water unsuitable for consumption by farm animals; and • Significant adverse effect on aquatic life.
Reporting requirements (Regulation 91)	<ul style="list-style-type: none"> • A written report must be provided within 20 working days of construction detailing the location, design and construction of the <i>slash trap</i> (including photographic evidence of the slash trap). • A written report must be provided annually by 31 March detailing: <ul style="list-style-type: none"> ○ Frequency of maintenance and clearance. ○ <i>Slash trap</i> condition and performance, (including any of the following adverse effects): <ul style="list-style-type: none"> ▪ Damage to downstream properties, infrastructure, receiving environments. ▪ Disturbance of the bed of the river. ▪ Blockages to the passage of fish.

1.1.4 Determining whether resource consent is required

The flow chart in Figure 2 outlines how to determine whether a *slash trap* needs resource consent. Where the permitted activity conditions for *slash traps* are not complied with, resource consent is required as a restricted discretionary activity under Regulation 92. *Slash traps* are also required to comply with the general provisions (Part 2, subpart 10) where relevant.

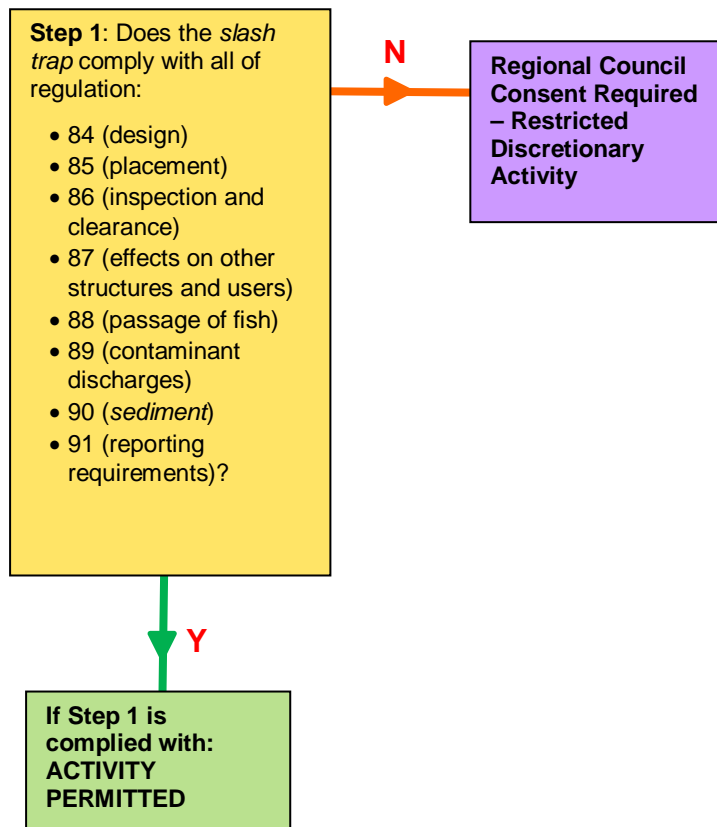


Figure 2: Flow chart to determine whether a resource consent is required for slash traps under the NES-PF.



1.1.5 Regulation 86 – Inspection and clearance

Regulation 86 sets out requirements to inspect and clear *slash traps* to ensure they are functional and to avoid large amounts of slash building up behind the *slash trap*, potentially becoming mobilised during high rainfall events.

Regulation 86(1)(a) requires that a *slash trap* must be inspected within five working days of the date of ‘*any significant rainfall event in the upstream catchment that is likely to mobilise debris*’. The NES-PF does not provide any guidance on what a ‘significant rainfall event’ is. This will vary on a case by case basis and depend on the nature of the rainfall event both in terms of intensity and duration. It is expected that foresters will use their judgement to determine whether *slash traps* may be at risk following a significant rainfall event.

Regulation 86(1)(b) requires that *slash traps* must be cleared of debris within 20 working days following a 5% AEP flood event. This works in combination with Regulation 86(1)(a) and it may be more cost-effective to clear the debris during the initial inspection rather than returning to the site a few days later.

Regulation 86(2) requires that ‘*slash cleared from the slash trap must be removed to a safe and stable location beyond river bed and land covered by the 5 % AEP flood event*’. The NES-PF does not provide any guidance on what constitutes a ‘safe and stable location’ as the topography around waterbodies is highly variable. It is expected that foresters will use their judgement to identify a suitable location for cleared *slash*. This will generally be well away from potentially high river flows and steeper land where the *slash* could be mobilised.

Section 4.10 of the [NES-PF User Guide](#) provides general guidance on how to calculate a 5% AEP flood event. Ideally the area covered by a 5% AEP flood event would have been identified during the preparation of the harvest plan and/or suitable locations for cleared *slash* already identified as part of the process to comply with Regulation 69 (*slash* debris and management).

1.1.6 Regulation 87 – Effects on other structures and users

Regulation 87 sets out conditions for *slash traps* to prevent certain adverse effects on the river itself and other structures and properties. When read together, the four sub-clauses require that a *slash trap* is designed properly and is structurally sound, so it will not cause problems within the river in its normal operation or structurally fail causing damage to other structures or downstream properties. Complying with this condition will require a good knowledge of the catchment, and the likely amount of *slash* that may enter the river and be caught by the *slash trap*, in order to design a fit-for-purpose *slash trap*.

1.1.7 Regulation 89 – Contaminant discharges and depositing organic matter

Subpart (d) of Regulation 89 requires that ‘*elevated sediment levels in any river resulting from the construction, installation, maintenance, or removal of a slash trap must not occur for more than eight consecutive hours*’. The NES-PF does not provide any quantitative parameters to measure elevated *sediment* levels as this will vary significantly across the country based on baseline levels of *sediment* in different water bodies. It is expected that councils will use their existing protocols and guidelines to measure elevated *sediment* levels over eight consecutive hours.

1.1.8 Regulation 91 – Reporting requirements

A written report must be provided to the regional council within 20 working days of constructing a *slash trap*. Regulation 91(1) requires the report to include photographic evidence of the *slash trap* which can be used as a basis to assess future performance and compliance of the *slash trap*.

Regulation 91(2) requires that:



‘A written report must be provided to the regional council annually by 31 March detailing the frequency of maintenance and clearance of the slash trap, and slash trap condition and performance, including any of the following adverse effects...’

This annual maintenance and performance report is different from the construction report required by Regulation 91(1). The annual report must detail if the *slash trap* has caused any of the specified adverse effects in Regulation 91(2)(a)-(c) during the time it has been operational, including:

- Damage to downstream infrastructure and properties.
- Disturbance of the bed of the river.
- Blockages to the passage of fish.

If any of these effects have occurred, it is good practice for the report to explain what repairs or changes to the *slash trap* are proposed to prevent these adverse effects occurring in the future. It may also be useful for foresters and councils to discuss the annual reporting requirements in Regulation 91(2) in terms of the preferred format and level of detail required. Generally, a very concise report which contains the required details would be sufficient to meet the requirements of Regulation 91(2) and photographic evidence can be the primary method to demonstrate the condition of the *slash trap* and its performance.