

Waverley Sawmills Ltd
Monitoring Programme
Annual Report
2018-2019

Technical Report 2019-91

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Executive summary

Waverley Sawmills Ltd (the Company) operates a wood waste disposal site located on Monk Road at Waverley, in the Whenuakura catchment, and a former wood waste disposal site located on Village Settlement Road at Waverley, in the Moumahaki catchment. The Monk Road site is consented to receive untreated wood waste only, and the Village Settlement Road site is consented to receive treated and untreated wood waste. All the wood waste discharged at both sites originates from the Company's sawmill in Waverley. This report for the period July 2018 to June 2019 describes the monitoring programme implemented by the Taranaki Regional Council (the Council) to assess the Company's environmental and consent compliance performance during the period under review. The report also details the results of the monitoring undertaken and assesses the environmental effects of the Company's activities. This is the twelfth compliance monitoring report on the Company's activities at the Monk Road and Village Settlement Road sites.

In March 2019, Council was informed by one of the Directors of the Company that the sawmill site, plant and stock on hand had been sold, but that none of the consents held by the Company were being transferred to the new owners. The Council was advised that the Company had gone into liquidation and that all legal and financial issues should be directed to the Company's Barrister. In more recent enquiries with the Barrister, it has been outlined that the Company is currently dormant and liquidation will be likely to occur soon after 31 March 2020.

The Company holds four resource consents relating to its wood waste disposal sites, which include a total of 35 conditions setting out the requirements that the Company must satisfy. The Company holds one land use consent for the purpose of piping a stream, two consents to discharge wood waste onto and into land, and one consent to discharge leachate and stormwater to land and water.

Overall an improvement is required in the Company's environmental performance with their resource consents.

The Council's monitoring programme for the period under review included two inspections, six water samples and two soil samples collected for physicochemical analysis and an on site meeting.

At the Monk Road site it was found that little, if any, wood waste had been disposed of in the time leading up to each of the monitoring inspections. There were no unauthorised materials found to have been discharged at the site. It was found that leachate at the Monk Road site still has potential to cause effects, and elevations in the concentration of contaminants were noted in the leachate. However, the receiving water monitoring found that the contaminant concentration limits on the consent were complied with during the year under review. It was found that the culvert conveying the tributary under the fill had become blocked causing the water level in the upstream pond to rise and come in contact with the uncapped fill, and that stock access had been allowed on the cap causing pugging. These issues have the potential to increase leachate generation from the site. The Company cleared and began routine checking of the culvert inlet and ensured that the farm operations staff understood that the area should not be grazed. As the Company had become inactive during the year under review, Council was advised that no further disposals would be occurring at the site. An abatement notice was issued requiring that the area be capped and revegetated as per resource consent conditions.

A revised Management Plan was provided in December 2018 that although meeting the general capping requirements, included a race across the area that would result in degradation of the integrity of the cap. The Company was advised that the cap design and the plan would need to be amended to ensure that the conditions of the consent were met. A revised plan is still to be received. Council is working with the consent holder to ensure that the site is adequately capped and the abatement notice is complied with prior to the Company being liquidated.

At the Village Settlement Road discharge site, remediation undertaken during the 2013-2014 year has, on the whole, remained effective and stable during the 2018-2019 year. The site surface was found to be stable with good vegetative cover. Soil sample results beyond the boundary complied with relevant consent conditions.

With consideration to the issues outlined above, an improvement is required in the Company's level of environmental and administrative performance with the resource consents as defined in Section 1.1.4 of the report.

For reference, in the 2018-2019 year, consent holders were found to achieve a high level of environmental performance and compliance for 83% of the consents monitored through the Taranaki tailored monitoring programmes, while for another 13% of the consents, a good level of environmental performance and compliance was achieved.

In terms of overall environmental and compliance performance by the consent holder over the last several years, this report shows that the consent holder's performance remains at a level that requires improvement.

This report includes recommendations for the 2019-2020 year.

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1 Introduction

1.1 Compliance monitoring programme reports and the Resource Management Act 1991

1.1.1 Introduction

This report is for the period July 2018 to June 2019 by the Taranaki Regional Council (the Council) on the monitoring programme associated with resource consents held by Waverley Sawmills Ltd (the Company). The Company operates two landfill (monofill – wood waste) sites. One site is situated on Monk Road at Waverley, in the Whenuakura catchment (consents 6413-2, 6412-1 and 7342-2). The other site, now closed, is on Village Settlement Road in the Waitotara catchment (consent 6528-2).

The report includes the results and findings of the monitoring programme implemented by the Council in respect of the consents held by the Company that relate to discharges of solids to land and discharges of water within the Whenuakura and Waitotara catchments, and the use of land by the installation and maintenance of a culvert in the Whenuakura catchment.

One of the intents of the *Resource Management Act 1991* (RMA) is that environmental management should be integrated across all media, so that a consent holder's use of water, air and land should be considered from a single comprehensive environmental perspective. Accordingly, the Council generally implements integrated environmental monitoring programmes and reports the results of the programmes jointly. This report discusses the environmental effects of the Company's use of water, land and air and is the twelfth combined annual report by the Council for the Company.

1.1.2 Structure of this report

Section 1 of this report is a background section. It sets out general information about:

- consent compliance monitoring under the RMA and the Council's obligations;
- the Council's approach to monitoring sites through annual programmes;
- the resource consents held by the Company in the Whenuakura and Waitotara catchments;
- the nature of the monitoring programme in place for the period under review; and
- a description of the activities and operations conducted in the Company's site/catchment.

Section 2 presents the results of monitoring during the period under review, including scientific and technical data.

Section 3 discusses the results, their interpretations, and their significance for the environment.

Section 4 presents recommendations to be implemented in the 2019-2020 monitoring year.

A glossary of common abbreviations and scientific terms, and a bibliography, are presented at the end of the report.

1.1.3 The Resource Management Act 1991 and monitoring

The RMA primarily addresses environmental 'effects' which are defined as positive or adverse, temporary or permanent, past, present or future, or cumulative. Effects may arise in relation to:

- a. the neighbourhood or the wider community around an activity, and may include cultural and social-economic effects;
- b. physical effects on the locality, including landscape, amenity and visual effects;

- c. ecosystems, including effects on plants, animals, or habitats, whether aquatic or terrestrial;
- d. natural and physical resources having special significance (for example recreational, cultural, or aesthetic); and
- e. risks to the neighbourhood or environment.

In drafting and reviewing conditions on discharge permits, and in implementing monitoring programmes, the Council is recognising the comprehensive meaning of 'effects' inasmuch as is appropriate for each activity. Monitoring programmes are not only based on existing permit conditions, but also on the obligations of the RMA to assess the effects of the exercise of consents. In accordance with Section 35 of the RMA, the Council undertakes compliance monitoring for consents and rules in regional plans, and maintains an overview of the performance of resource users and consent holders. Compliance monitoring, including both activity and impact monitoring, enables the Council to continually re-evaluate its approach and that of consent holders to resource management and, ultimately, through the refinement of methods and considered responsible resource utilisation, to move closer to achieving sustainable development of the region's resources.

1.1.4 Evaluation of environmental and administrative performance

Besides discussing the various details of the performance and extent of compliance by the Company, this report also assigns them a rating for their environmental and administrative performance during the period under review.

Environmental performance is concerned with actual or likely effects on the receiving environment from the activities during the monitoring year. Administrative performance is concerned with the Company's approach to demonstrating consent compliance in site operations and management including the timely provision of information to Council (such as contingency plans and water take data) in accordance with consent conditions.

Events that were beyond the control of the consent holder and unforeseeable (that is a defence under the provisions of the RMA can be established) may be excluded with regard to the performance rating applied. For example loss of data due to a flood destroying deployed field equipment.

The categories used by the Council for this monitoring period, and their interpretation, are as follows:

Environmental Performance

High: No or inconsequential (short-term duration, less than minor in severity) breaches of consent or regional plan parameters resulting from the activity; no adverse effects of significance noted or likely in the receiving environment. The Council did not record any verified unauthorised incidents involving environmental impacts and was not obliged to issue any abatement notices or infringement notices in relation to such impacts.

Good: Likely or actual adverse effects of activities on the receiving environment were negligible or minor at most. There were some such issues noted during monitoring, from self reports, or during investigations of incidents reported to the Council by a third party but these items were not critical, and follow-up inspections showed they have been dealt with. These minor issues were resolved positively, co-operatively, and quickly. The Council was not obliged to issue any abatement notices or infringement notices in relation to the minor non-compliant effects; however abatement notices may have been issued to mitigate an identified potential for an environmental effect to occur.

For example:

- High suspended solid values recorded in discharge samples, however the discharge was to land or to receiving waters that were in high flow at the time;
- Strong odour beyond boundary but no residential properties or other recipient nearby.

Improvement required: Likely or actual adverse effects of activities on the receiving environment were more than minor, but not substantial. There were some issues noted during monitoring, from self reports, or during investigations of incidents reported to the Council by a third party. Cumulative adverse effects of a persistent minor non-compliant activity could elevate a minor issue to this level. Abatement notices and infringement notices may have been issued in respect of effects.

Poor: Likely or actual adverse effects of activities on the receiving environment were significant. There were some items noted during monitoring, from self reports, or during investigations of incidents reported to the Council by a third party. Cumulative adverse effects of a persistent moderate non-compliant activity could elevate an 'improvement required' issue to this level. Typically there were grounds for either a prosecution or an infringement notice in respect of effects.

Administrative performance

High: The administrative requirements of the resource consents were met, or any failure to do this had trivial consequences and were addressed promptly and co-operatively.

Good: Perhaps some administrative requirements of the resource consents were not met at a particular time, however this was addressed without repeated interventions from the Council staff. Alternatively adequate reason was provided for matters such as the no or late provision of information, interpretation of 'best practical option' for avoiding potential effects, etc.

Improvement required: Repeated interventions to meet the administrative requirements of the resource consents were made by Council staff. These matters took some time to resolve, or remained unresolved at the end of the period under review. The Council may have issued an abatement notice to attain compliance.

Poor: Material failings to meet the administrative requirements of the resource consents. Significant intervention by the Council was required. Typically there were grounds for an infringement notice.

For reference, in the 2018-2019 year, consent holders were found to achieve a high level of environmental performance and compliance for 83% of the consents monitored through the Taranaki tailored monitoring programmes, while for another 13% of the consents, a good level of environmental performance and compliance was achieved.¹

1.2 Process description

In 2002, the Company was in the process of carrying out due diligence with regard to potential purchase of the sawmill. During this process the new owners noted that the sites to which their mill wood waste was being discharged did not have resource consents to cover these activities. While the Company viewed the issue of consenting the disposal site strictly a matter for the disposal contractor, they considered it good environmental governance to make it their business, and become involved.

As a result, the Company applied for and were granted consent to install a culvert at the Monk Road site and a consent to discharge untreated wood waste to the site. They were later granted a consent to discharge treated wood waste to a site on Village Settlement Road.

As a result of ongoing leachate generation from historical filling at the Monk Road site, the Company applied for, and were granted, a consent to discharge stormwater and leachate to land and water in August 2008. This consent was renewed in 2010.

¹ The Council has used these compliance grading criteria for 15 years. They align closely with the 4 compliance grades in the MfE Best Practice Guidelines for Compliance, Monitoring and Enforcement, 2018

Wood waste is generated at the sawmill at various stages of the timber processing operation, from de-barking through to gauging. In the course of applying for resource consent to discharge treated wood waste, the Company identified ways to reduce the quantity of treated wood waste produced. One of these measures included machining timber products before they were treated with preservative whenever possible. Such alterations to the production process have significantly reduced the quantity of treated wood waste for disposal at Bonny Glen landfill.

More recently (May 2015), a new wood waste boiler was commissioned. This boiler is fuelled with sawdust and takes the 15,000 m³ per annum of sawdust that would previously have been trucked to Monk Road. Any additional sawdust required is sourced from another sawmill within the Taranaki region. During the 2017-2018 year, the Company found alternative uses for untreated wood waste generated at the site, with the diversion of up to 3,000 m³/yr of shavings for animal bedding, up to 9,500 m³/yr of bark and wood fibre to a compost company. These initiatives have reduced the estimated volume of wood waste going to the Monk Road site to the order of about 2,500 m³/yr.

The site at Monk Road is a gully in the upper reaches of a catchment that is predominately comprised of dairy farm land. Immediately above the discharge area is a small farm dam. The Company installed a culvert at the site that piped the tributary from this dam around and downstream of the discharge area, effectively bypassing the discharge area. The aim of this work was to reduce the quantity of water entering the discharge area and coming into contact with the wood waste discharged therein.

After this development was completed, and prior to the purchase of the sawmill by the current owners, a spring was discovered under the filled area. It was found that the spring was dissolving and mobilising contaminants from the fill, that is, generating leachate. The leachate was found to be discharging into the unnamed tributary of the Kohi Stream. The presence of copper, chromium and arsenic in the leachate indicated that treated wood waste had been disposed of at the site in the past. A consent to permit this leachate discharge was obtained by the Company in August 2008 and the consent was renewed in October 2010.



Figure 1 Waverley Sawmills Ltd discharge sites

The discharge site on Village Settlement Road was chosen because it is elevated and therefore dry. The site is small in size compared to the Monk Road site and while it is situated close to an unnamed tributary at the north west end of the site, the surface gradient and contours ensure that surface water from the site flows in a south easterly direction, away from the water body. The Company ceased producing treated wood waste by ensuring that all machining was done prior to treatment and as a result, the Company's Village Settlement Road site was closed in June 2014. Site remediation work was undertaken in the 2013-2014 year to ensure that the consent soil component concentrations for the cap and surface soils down gradient of the fill area were met. This was discussed in the 2013-2014 Annual Report.



Photo 1 Waverley Sawmills Ltd discharge site at Village Settlement Road, Waverley – post closure



Photo 2 Waverley Sawmills Ltd discharge site at Monk Road, Waverley, September 2018

In March 2019, Council was informed by one of the Directors of the Company that the sawmill site, plant and stock on hand had been sold, but that none of the consents held by the Company were being transferred to the new owners. The Council was advised that the Company had gone into liquidation and that all legal and financial issues should be directed to the Company's Barrister. In more recent enquiries with the Barrister, it has been outlined that the Company is currently dormant and liquidation will be likely to occur soon after 31 March 2020.

1.3 Resource consents

The Company holds four resource consents the details of which are summarised in the tables below. Summaries of the conditions attached to each permit are set out in Section 3 of this report.

A summary of the various consent types issued by the Council is included Appendix I, as are copies of all permits held by the Company during the period under review.

Table 1 Consents held in respect of the Monk Road site

Consent number	Purpose	Granted	Review	Expires
<i>Water discharge permits</i>				
7342-2	To discharge leachate and stormwater from a sawmill-waste disposal site into an unnamed tributary of the Kohi Stream	7 October 2010	June 2022	1 June 2028
<i>Discharges of waste to land</i>				
6413-2.1	To discharge untreated wood waste from sawmill operations onto and into land	2 February 2016	June 2022	1 June 2028
<i>Land use permits</i>				
6412-1	To erect, place and maintain a culvert in an unnamed tributary of the Kohi Stream in the Whenuakura catchment	4 March 2005	-	1 June 2022

Table 2 Consent held in respect of the Village Settlement Road site

Consent number	Purpose	Granted	Review	Expires
<i>Discharges of waste to land</i>				
6528-2	To discharge treated and untreated wood waste and associated leachate onto and into land	31 July 2012	-	1 June 2022

1.4 Monitoring programme

1.4.1 Introduction

Section 35 of the RMA sets obligations upon the Council to gather information, monitor and conduct research on the exercise of resource consents within the Taranaki region. The Council is also required to assess the effects arising from the exercising of these consents and report upon them.

The Council may therefore make and record measurements of physical and chemical parameters, take samples for analysis, carry out surveys and inspections, conduct investigations and seek information from consent holders.

The monitoring programme for the Company's wood waste disposal sites consisted of three primary components.

1.4.2 Programme liaison and management

There is generally a significant investment of time and resources by the Council in:

- ongoing liaison with resource consent holders over consent conditions and their interpretation and application;
- discussion over monitoring requirements;
- preparation for any consent reviews, renewals or new consent applications;
- advice on the Council's environmental management strategies and content of regional plans; and
- consultation on associated matters.

1.4.3 Site inspections

Two routine compliance monitoring inspections were carried out at the Monk Road site and one at the Village Settlement Road site during the monitoring period. With regard to consent for the disposal of wood waste onto and into land at both sites, the main points of interest were site processes with potential or actual discharges to receiving watercourses, including contaminated stormwater. Air inspections focused on plant processes with associated actual and potential emission sources and characteristics, including potential odour, dust, noxious or offensive emissions. Sources of data being collected by the Company were identified and accessed, so that performance in respect of operation, internal monitoring, and supervision could be reviewed by the Council. There was also an on site meeting to discuss capping requirements.

1.4.4 Chemical sampling

The Council undertook sampling at both discharge sites. These included leachate samples, surface water samples, and soil samples.

2 Results

2.1 Inspections

2.1.1 Monk Road site

26 September 2018

A Company representative was contacted immediately prior to the inspection, however the representative did not attend the inspection. The following was found to be occurring: Completed the first compliance inspection for the 2018- 2019 monitoring period at the Monk Road sawdust disposal site.

Receiving water samples were collected upstream (KOI000100) and 500 m downstream (KOI000130) of the site. A discharge sample was collected from the combined flow of the culverted spring and the diverted tributary at the culvert outlet downstream of Monk Road in the. Due to the discharge rates in the manhole riser immediately downstream of the fill area it was not possible to obtain separate samples from these flows. It was estimated that the diverted tributary was discharging at approximately 3 L/s. The combined contaminated spring water/tributary discharge via the culvert downstream of Monk Road was estimated at approximately 5 L/sec. Visible foaming was noticeable, but this was only at the point of discharge. It was noted that there was a distinctive light leachate type odour to the discharge. It was found that the pond level upstream of the site was higher than usual, and was observed to be in contact with fill material at the north eastern toe of the fill area (Photo 3). Although a discharge was occurring via the weir, the high pond level and low discharge rate at the riser, indicated that there was potentially another blockage in the diversion culvert. This was non-complaint with condition 1 of the Company's land use consent (6412-1).



Photo 3 Ponded water upstream of the site in contact with the sawdust fill material, 26 September 2018

It was found that there were no recent disposals of sawdust at the site and therefore no sawdust samples were collected on this occasion. It was observed that no further remediation work had been carried out on the sawdust cap. It appeared that cattle have had access to the site over the winter period and have caused extensive pugging (Photo 4). This was non-compliant with conditions 6 and 7 of Company's discharge of sawdust to land consent (6413-2.1).



Photo 4 Pugging on filled area that does not have an acceptable final cap, 26 September 2018

The Company was contacted immediately after the inspection with regards to the high pond level at monitoring site upstream of the fill. The Company was advised that there may be an obstruction somewhere in the pipe and that this should be checked. The Company followed up on the Council's advice to check the pond level and investigation of a possible obstruction in the pond discharge system. The inspecting officer was informed that the level had receded. As it appeared that the sawdust disposal site was no longer being used, the Company was informed that the Council would follow up to discuss decommissioning plans and time frames for remedial works as required. The consent non-compliances were logged on the Council's incidents register and a letter of explanation was requested. This is discussed further in Section 2.3.

16 April 2019

The Company was contacted prior to carrying out the inspection. It was noted that the disposal site was no longer active. The Company was informed that water quality samples were also collected upstream (KOI000100) and 500 m downstream of the site (KOI000130) along with a discharge sample from the manhole riser (IND0001055) below the filled area. There was no visible environmental impact at the lower Kohi Stream unnamed tributary monitoring site (KOI000130). The stream was running at a moderate steady flow, was relatively clear and light green in colour. The upstream pond area was at a low level (below the weir inlets) even though heavy rain had occurred prior to the inspection and sampling survey.

It was found that the sawdust site area has not been capped. It was observed that the northern section had been temporary fenced off and covered with a light layer of soil that was showing poor vegetation growth (mainly weeds). A pile of soil had been stockpiled along the mid-section of the sawdust area. The Company was instructed to ensure that 300 mm of compacted clay is applied to any filled area before any soil cover is placed. The Company was reminded of consent 6413-2's condition 7 requirement that *"any area used for the discharge of material under this consent shall be capped and re-vegetated. The cap shall be contoured to ensure no ponding occurs over the discharge area and shall consist of a minimum of 300 mm of clean clay and 100 mm of top soil."* The Company was asked to update the capping schedule that was provided to the Council in December 2018 and to notify the Council prior to capping the Monk Road sawdust disposal area. The company was advised that the site activities were non-compliant with conditions 1 and 6 of consent 6413-2.1. Although a capping plan had been received, the works had fallen behind schedule leaving large areas of the filled site uncapped. This was recorded on Council's incidents register and an abatement notice was issued. This is discussed in more detail in Section 2.3.

2.1.2 Village Settlement Road site

26 September 2018

There were no visible issues with the old sawdust disposal area at the Village Settlement Road site. The pasture growing on the covered sawdust area appeared healthy and there was no slumping or leachate seepage evident. Soil samples were collected and composited on site. Both sides of the eastern boundary fence were sampled on this occasion. No provisional soil sample (SOLOOO181) was collected from the capped area as the cap appeared effective and undisturbed.

2.2 Results of soil, wood waste and surface water monitoring

2.2.1 Monk Road

2.2.1.1 Results of discharge monitoring

IND001055 was previously located in an open drain below the fill site, which is fed by a spring that originates (and is partially culverted) under the fill. At the inspection on 20 September 2017, it was found that the remainder of the drain had been piped, with a manhole installed downstream of the remaining area to be filled. Two samples of the discharge were collected during the monitoring period, one of which was obtained from the pipe outlet within the manhole, and one of which was obtained from the Monk Road culvert outlet. The results of this sampling are presented in Table 3.

There are currently no discharge limits on the consent, however there are limits on various parameters in the Kohi Stream and these results are necessary to compare with effect, if any, observed in the receiving water. These comparisons are presented in Section 2.2.1.2.

Table 3 Water quality analysis of samples taken from the discharge drain below Waverley Sawmills Ltd's wood waste discharge site at Monk Road

Parameter	Unit	IND001055	
		26 September 2018 ^a	16 April 2019
Dissolved arsenic	g/m ³	0.45	0.85
BODCF	g/m ³	72	1.4
Conductivity @ 20°C	mS/m	51.0	74.6
Dissolved chromium	g/m ³	0.032	0.049
Dissolved copper	g/m ³	0.0018	< 0.0005

Parameter	Unit	IND001055	
		26 September 2018 ^a	16 April 2019
pH	pH	6.4	6.4
Temperature	Deg C	17.0	21.1

a sampled at culvert outlet downstream of Monk Road

BODCF filtered carbonaceous biochemical oxygen demand

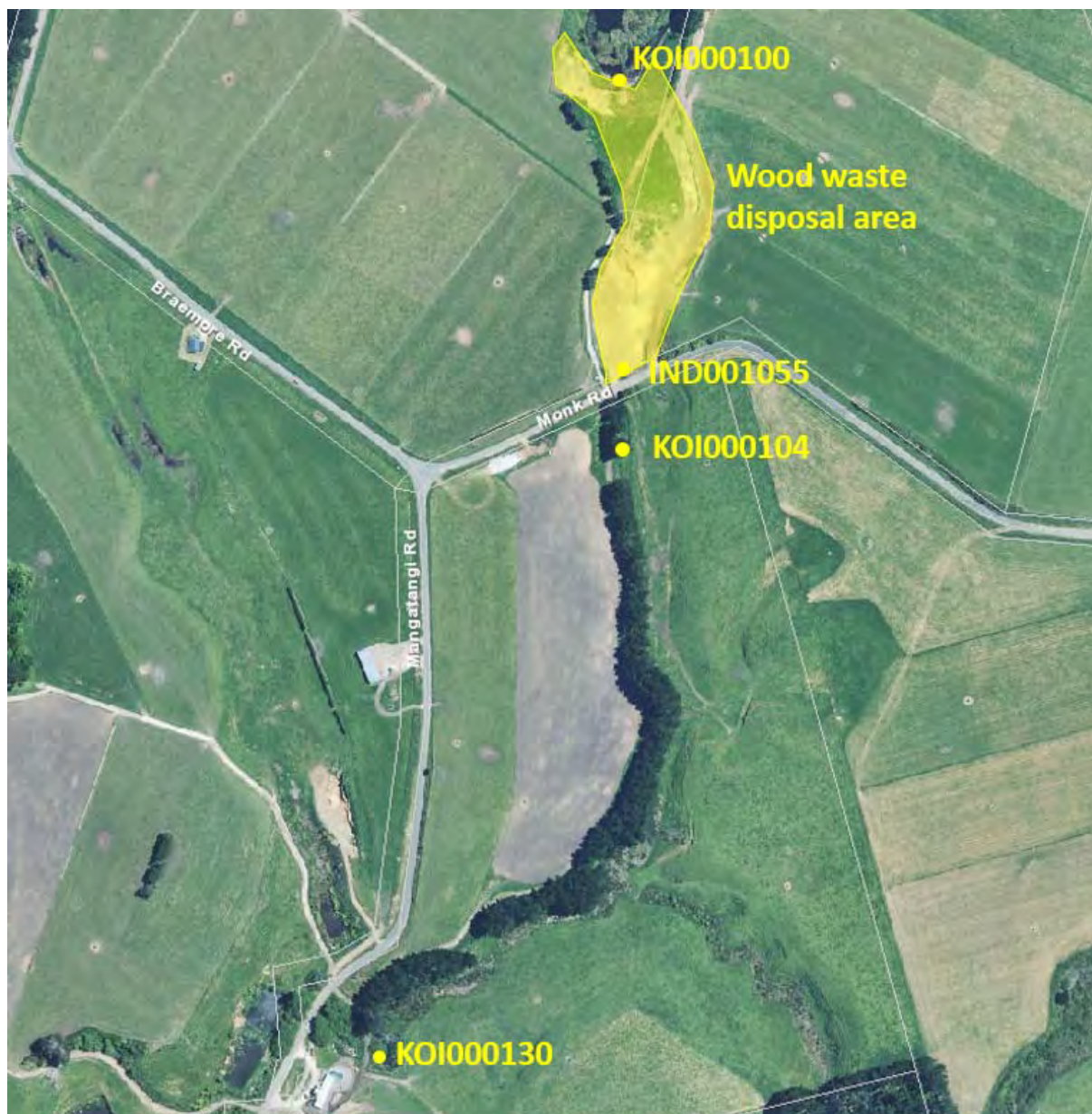


Figure 2 Monk Road sampling sites, Waverley

2.2.1.2 Results of receiving water monitoring

Scheduled water samples were collected on two occasions from an unnamed tributary of the Kohi Stream upstream (KHI000100) and downstream (KHI000130) of the consented mixing zone (Table 4). The sites used for sampling are shown in Figure 2.

Table 4 Water quality analysis of samples taken from upstream (KOI000100) and downstream (KOI000130) monitoring sites at Waverley Sawmills Ltd's wood waste discharge site at Monk Road

Date	Site	Dissolved arsenic g/m ³	BODCF g/m ³	Condy mS/m @20°C	Dissolved chromium g/m ³	Dissolved copper g/m ³	pH	Temp Deg. C
Consent limits at KOI000130		0.1	3.0	-	0.1	0.01	-	-
26 Sep 2018	Upstream	0.0089	< 1.0	19.8	< 0.0005	0.0012	7.4	14.6
	Downstream	0.0151	< 1.0	28.8	0.0070	< 0.0005	7.5	12.3
16 Apr 2019	Upstream	0.0019	1.1	19.0	< 0.0005	< 0.0005	7.1	15.1
	Downstream	0.0280	< 1.0	25.8	0.0034	< 0.0005	7.9	14.4

BODCF filtered carbonaceous biochemical oxygen demand

The water quality samples collected at the compliance point showed that on the occasions the surveys were undertaken the discharge of leachate complied with the limits on the parameters imposed on consent 7342-2. There was a change in pH of 0.8 pH units, which is a change that may present a barrier to fish passage. However, the results of the discharge sample showed that the wood waste disposal activity was not responsible for this change, and in addition, the perched outlet of the culvert that passes under Monk Road is likely to present a more significant barrier to fish passage.

During the period under review it was found that the spring water at the source (site IND001055) continued to show higher than usual levels of dissolved arsenic and BODCF when compared to 2008 to 2013 (Figure 3 and Figure 4). However, in contrast to the 2017-2018 year, there were no resultant exceedances of the receiving water consent limits.

As with the 2017-2018 year, the chromium and copper concentrations in both the contaminated spring water and the receiving water at the compliance point continued to at a lower level, comparable with the results obtained for the 2008-2013 years (Figure 5 and Figure 6).

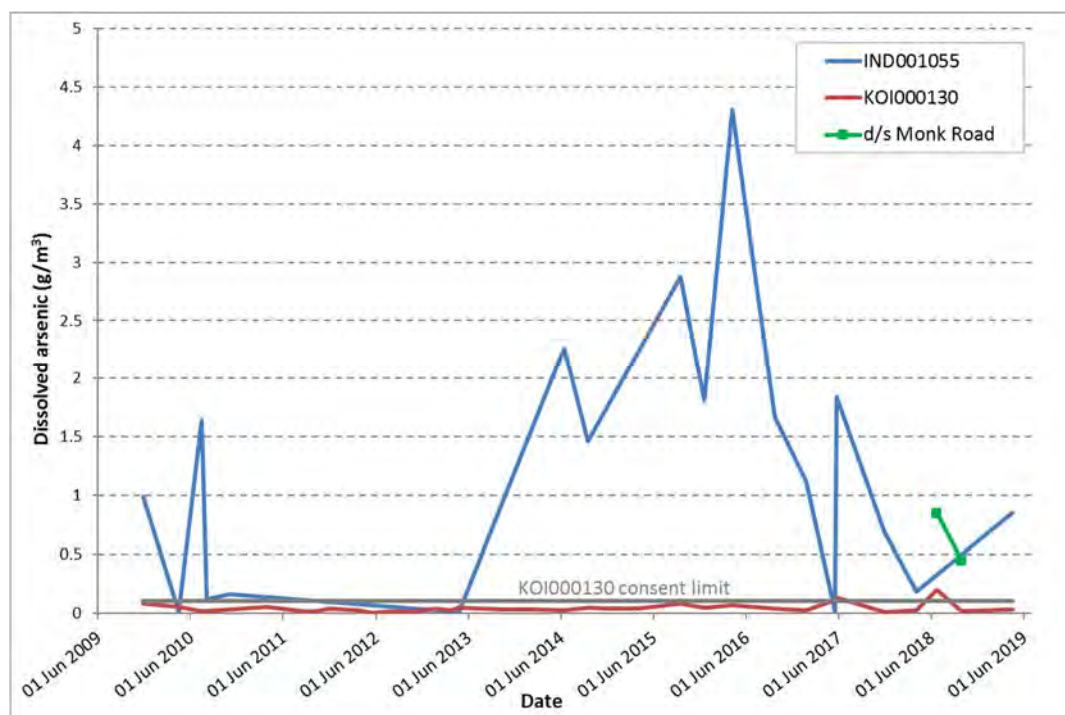


Figure 3 Graph showing trends in dissolved arsenic at site IND001055 and KOI000130

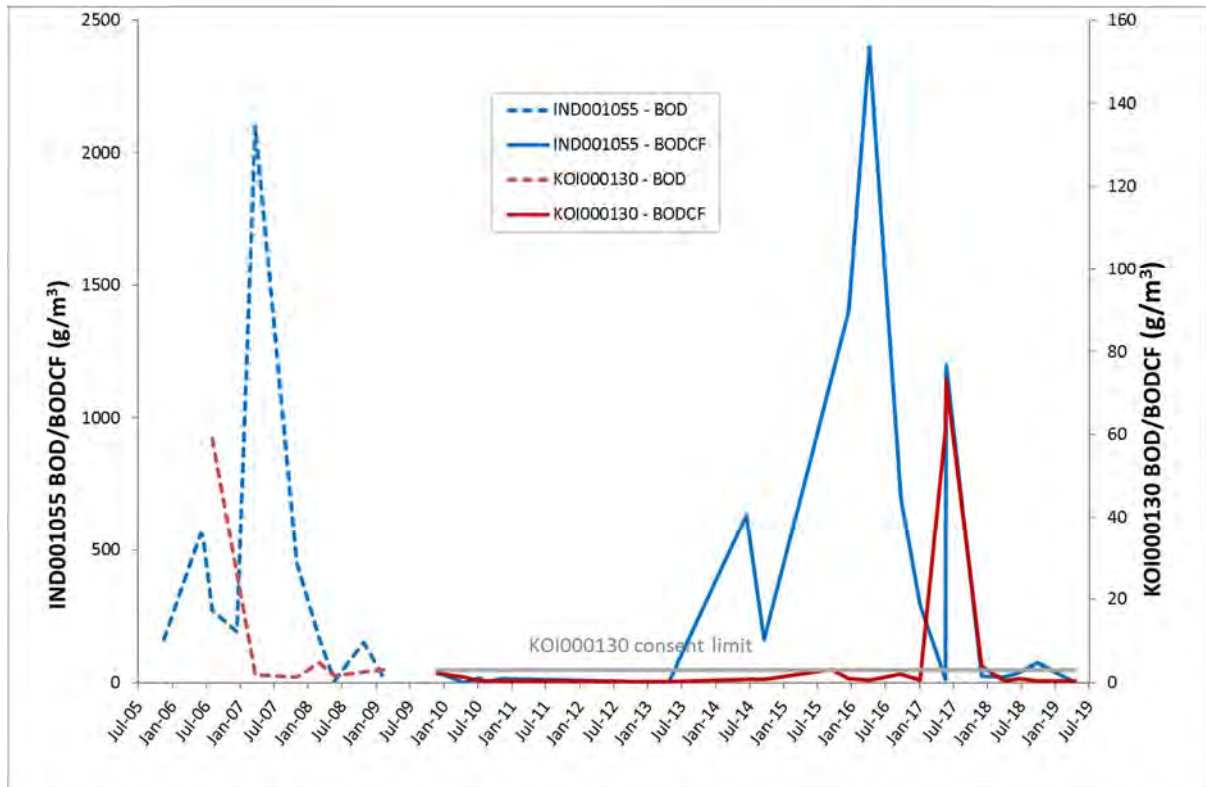


Figure 4 Graph showing trends in BOD at site IND001055 and KOI000130

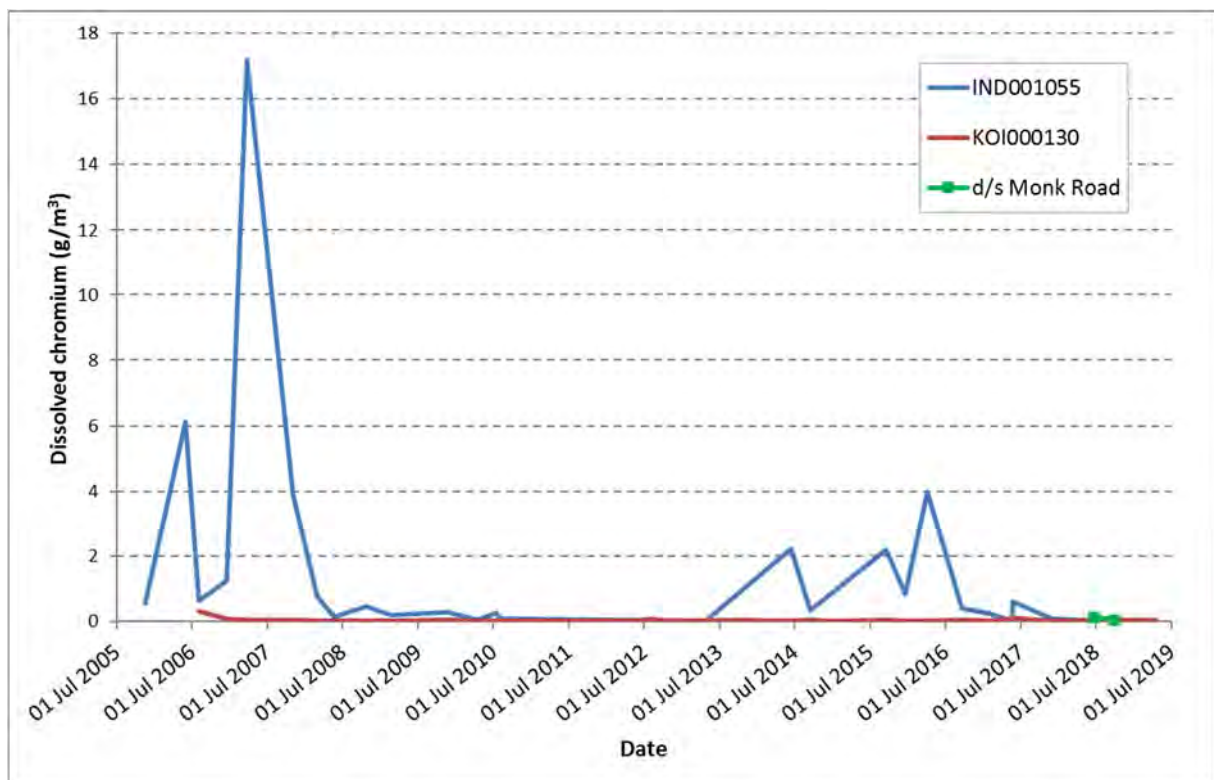


Figure 5 Graph showing trends in dissolved chromium at site IND001055 and KOI000130

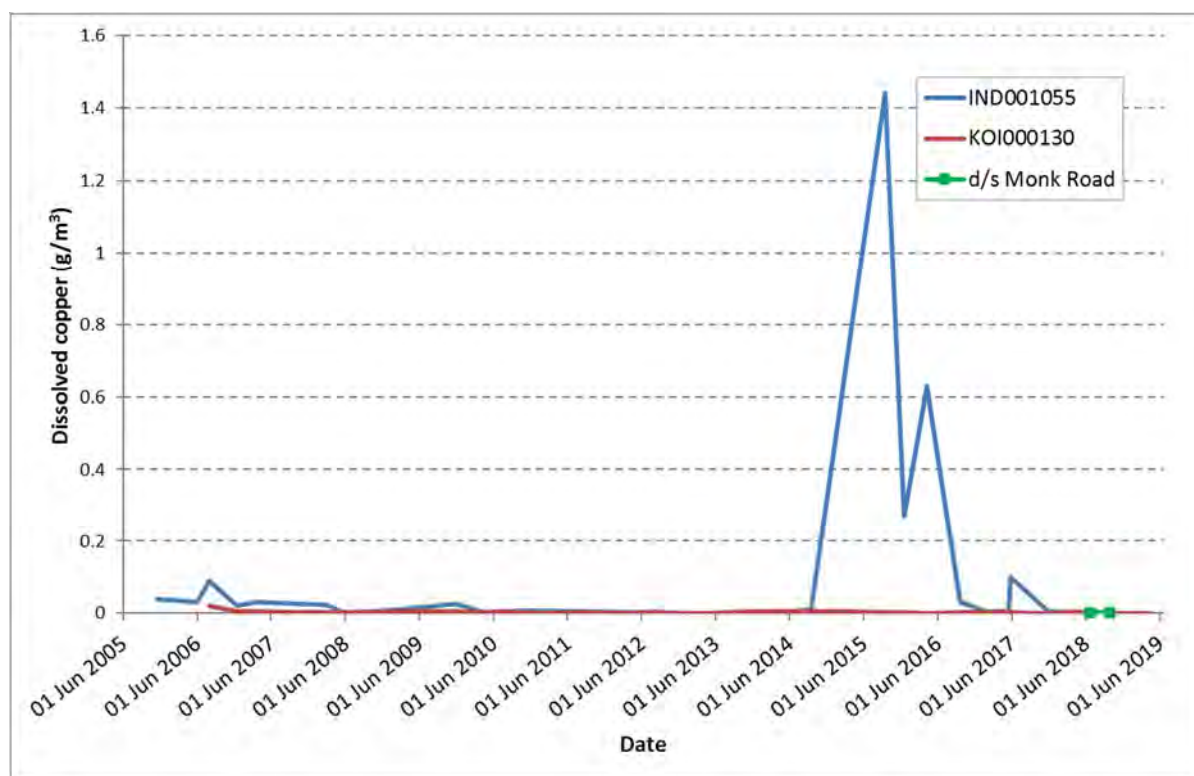


Figure 6 Graph showing trends in dissolved copper at site IND001055 and KOI000130

Since the massive spike in contaminant loads in 2007 was noted in the leachate/spring water discharge, the levels of contaminants in this spring water had reduced and remain relatively consistent. This trend came to an end in the 2013-2014 year, when levels of BOD, copper, chrome and arsenic all increased. Since then, and during the period under review the BOD and arsenic have remained elevated to varying degrees, although the copper and chromium concentrations appeared to have returned to their former levels during the 2017-2019 years. These changes in dissolved arsenic and BODCF indicate that the nature of the discharge had changed.

Concurrent changes were noted in the temperature and the pH of the contaminated spring water, which are both physicochemical changes that are likely to affect the BODCF and the solubility of the metals present in the previously discharged treated timber wastes.

The pH of the discharge from the wood waste disposal area had decreased significantly, resulting in the discharge/spring water sampled at IND001055 becoming more acidic (Figure 7). The combination of the increased acidity and the elevated temperature at this site (Figure 8), is likely to be the cause of the mobilisation of metals from treated timber wood waste that was thought to have been disposed of at the site under previous management. This was prior to consent being sought by the current consent holder. The apparent pH dependence is shown in Figure 7 and Figure 9, with the arsenic concentration reducing as the pH moves towards more typical levels. It is noted that the effect observed at the downstream site will also depend on the relative flow rates of the tributary and the leachate/spring water at the time that the grab samples were collected. It is also noted that the flow rate of the tributary through the pipe under the fill area was likely to have been reduced at the time of the September survey due to an obstructed pipe inlet structure in the upstream pond (Section 2.3).

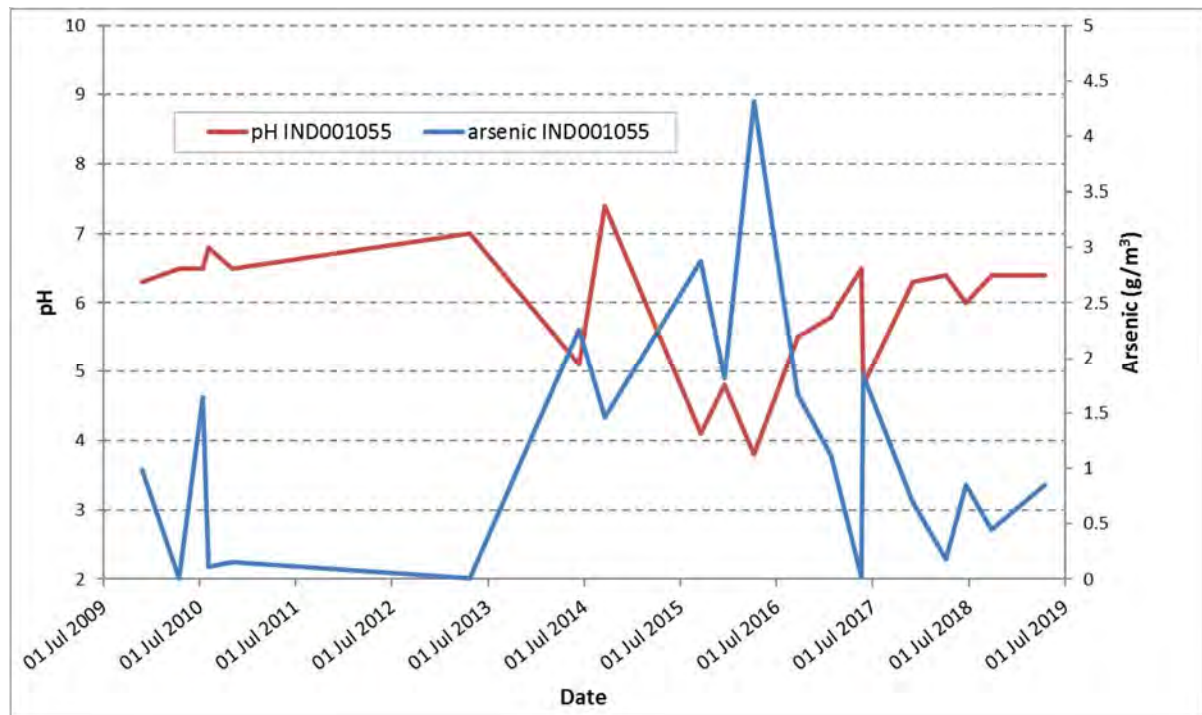


Figure 7 Graph showing pH and arsenic of the discharge at site IND001055

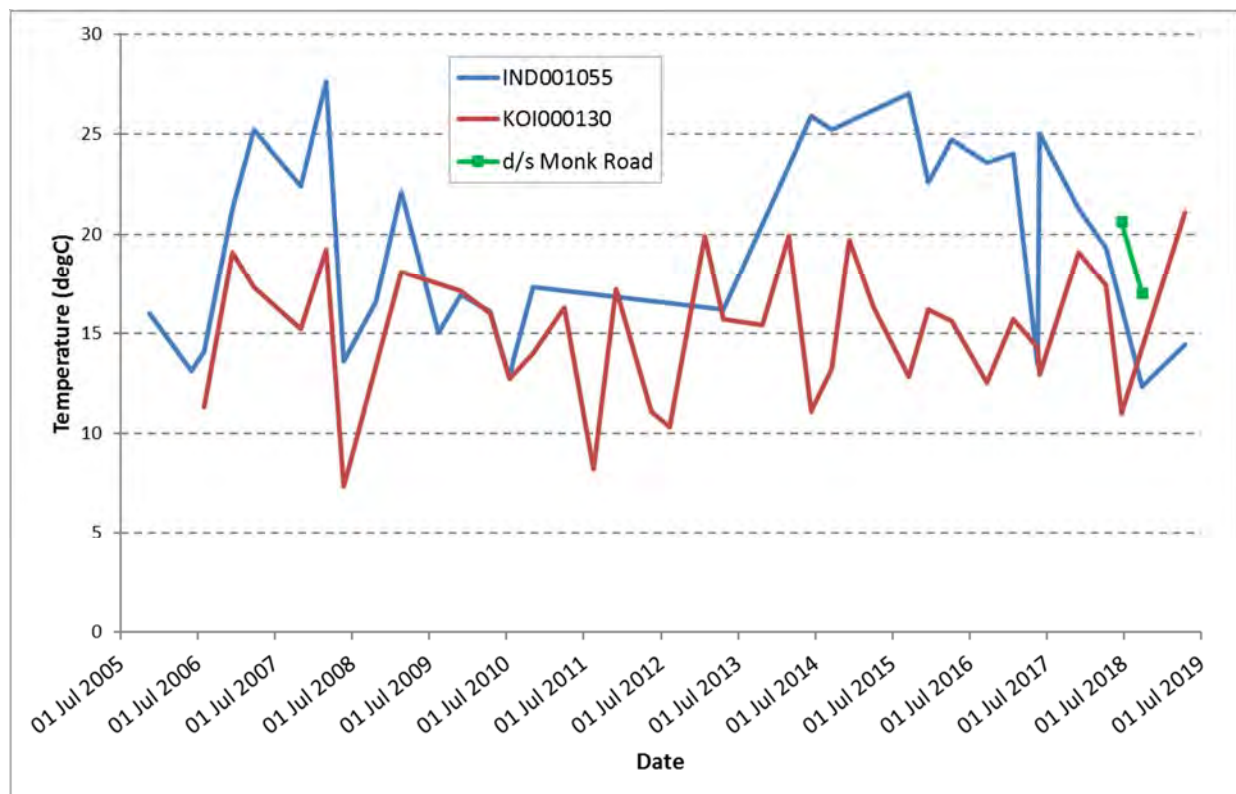


Figure 8 Graph showing the temperatures at site IND001055 and KOI000130

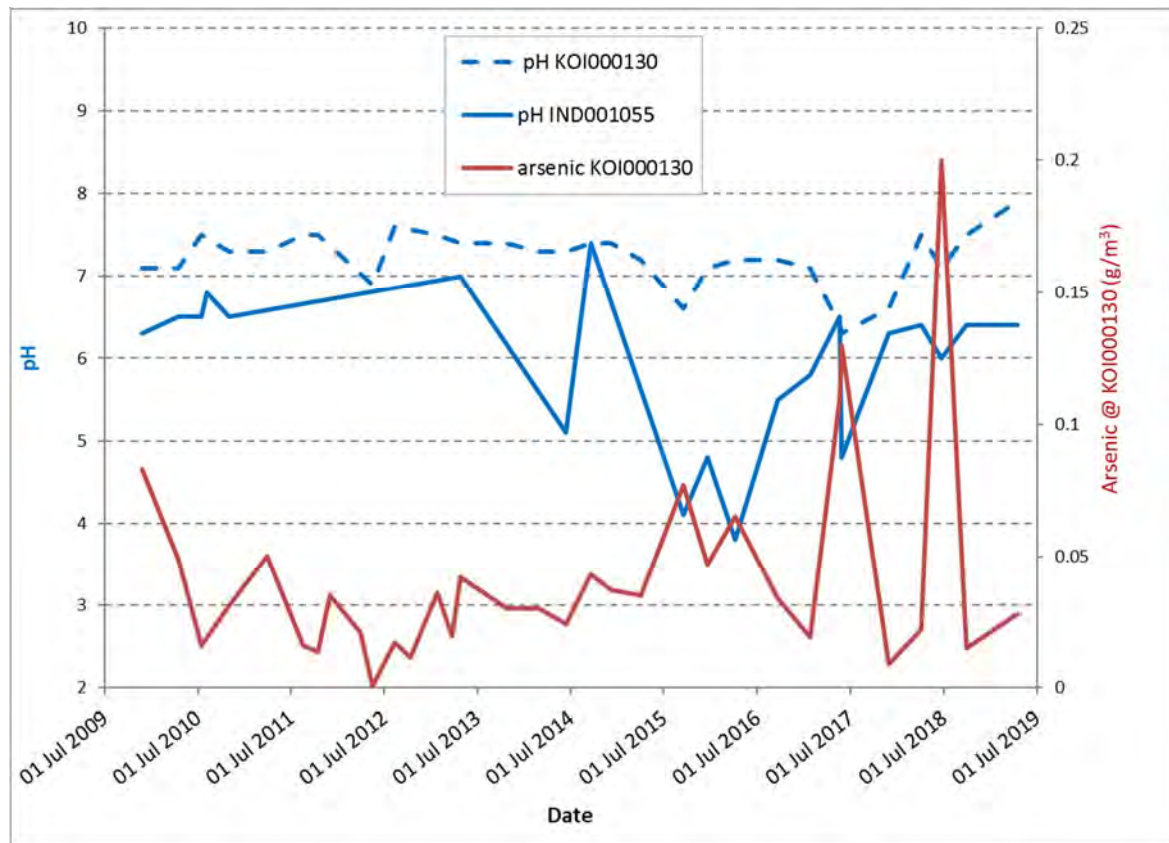


Figure 9 Graph showing pH at sites IND001055 and KOI000130 and arsenic of the receiving water site KOI000130

2.2.1.3 Sampling of discharged material

Wood waste sampling was scheduled to be undertaken at the Monk Road site, however for the second year there had been no recent loads of wood waste disposed of at the site at the times the inspections were undertaken. A proposed recommendation is therefore to make this a provisional element of the monitoring programme.

2.2.2 Village Settlement Road site

Soil samples were taken from the capped areas, on virgin ground down-gradient of the landfill footprint and from the neighbouring property. The sampling sites are shown in Figure 10 and the results of the soil analysis are given in Table 5 and Table 6.

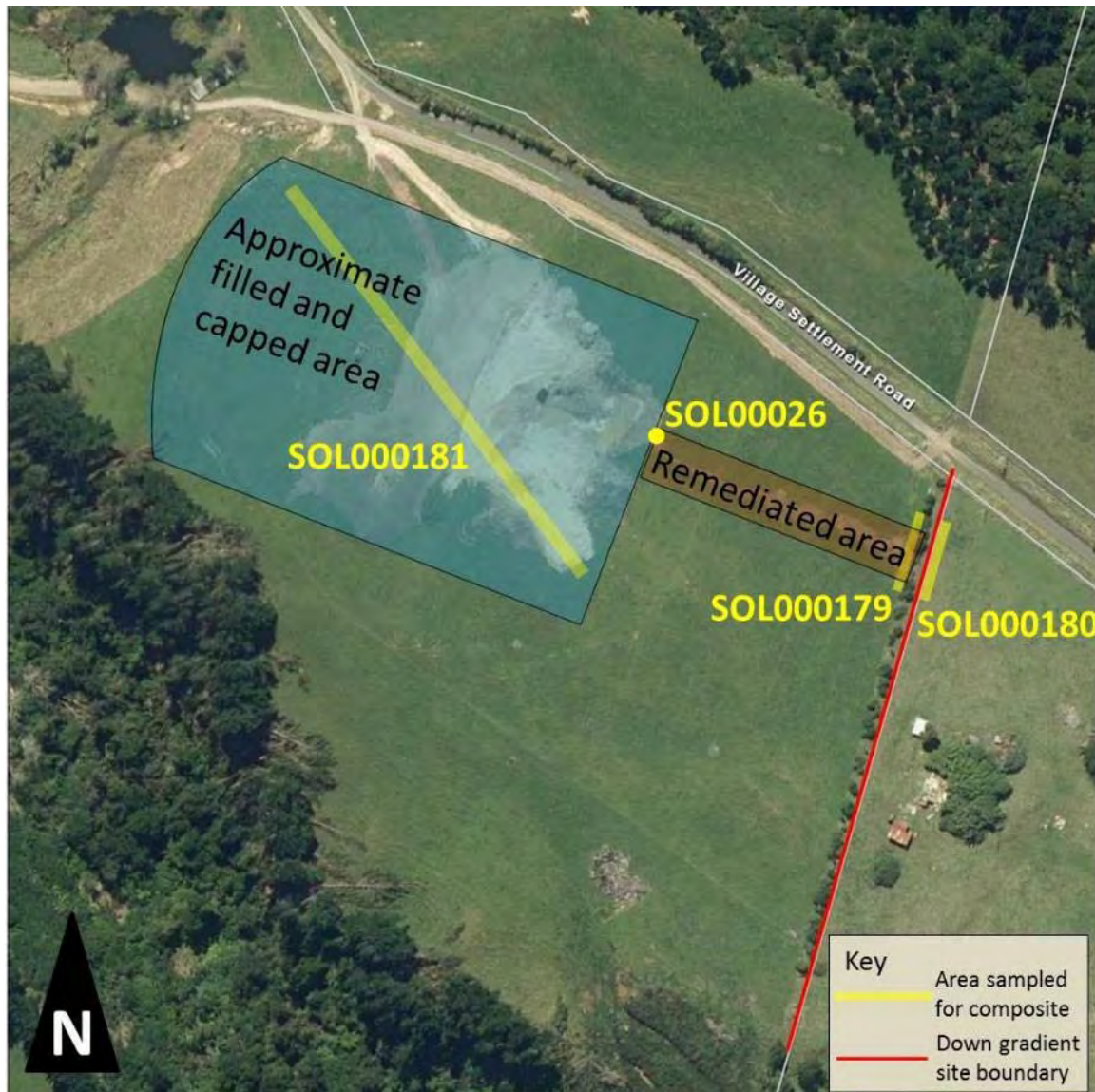


Figure 10 Aerial view of the discharge site and sampling sites at Waverley Sawmills Ltd's Village Settlement Road site

2.2.2.1 Outside the landfill footprint – site SOL000179

On 26 September 2018, 10 cores were taken across a transect running parallel to and about 5 m inside the eastern boundary fence, avoiding areas in close proximity to the tanalised fence posts. These cores were made into a composite sample and analysed for CCAB, as consent 6528-2 contains limits for these components and require the area to be remediated should CCAB levels exceed those limits once filling operations have been completed. The results for the year under review are presented in Table 5.

In the 2017-2018 year the component concentrations in the soil inside the down gradient boundary complied with the post closure limits contained in consent 6528-2, with the exception of the arsenic concentration. The uncertainty of measurement on this determination is +/- 6.5 mg/kg, so this was not treated as a non-compliance. The composite taken from beyond the site boundary still had low (acceptable) levels of arsenic present, but was on the consent limit for copper. In response to these results, the Company was advised that the Council would resample in spring 2018.

The spring 2018 sample collected from inside the fill site boundary complied with the prescribed limits.

Table 5 Results of soil sampling at site SOL000179, Village Settlement Road inside site boundary

Parameter	Units	26 September 2018	6528-2 consent limit (post-closure)
Arsenic	mg/kg dry weight	32	38
Boron		< 20	160
Chromium		47	76
Copper		52	130

2.2.2.2 Neighbouring property – site SOL000180

Ten cores were taken across a transect running parallel to and about 5 m outside the eastern boundary fence, again avoiding areas in close proximity to the tanalised fence posts. These cores were made into a composite sample and analysed for CCAB contaminants. The results, given in Table 6, showed that this area was compliant with consent conditions in regards to CCAB post closure limits set out by the consent.

Table 6 Results of soil sampling at site SOL000180 Village Settlement Road beyond site boundary (5 m below Southern boundary fence)

Parameter	Units	26 September 2018	6528-2 consent limit (post-closure)
Arsenic	mg/kg dry weight	5	30
Boron		< 20	20
Chromium		15	76
Copper		39	42

2.3 Incidents, investigations, and interventions

The monitoring programme for the year was based on what was considered to be an appropriate level of monitoring, review of data, and liaison with the Company. During the year matters may arise which require additional activity by the Council, for example provision of advice and information, or investigation of potential or actual causes of non-compliance or failure to maintain good practices. A pro-active approach, that in the first instance avoids issues occurring, is favoured.

For all significant compliance issues, as well as complaints from the public, the Council maintains a database record. The record includes events where the individual/organisation concerned has itself notified the Council. Details of any investigation and corrective action taken are recorded for non-compliant events.

Complaints may be alleged to be associated with a particular site. If there is potentially an issue of legal liability, the Council must be able to prove by investigation that the identified individual/organisation is indeed the source of the incident (or that the allegation cannot be proven).

Table 7 sets out a summary of any incidents recorded, additional investigations, or interventions required by the Council in relation to the Company's activities during the 2018-2019 period. This table presents details of all events that required further investigation or intervention regardless of whether these were found to be compliant or not.

Table 7 Incidents, investigations, and interventions summary table

Date	Details	Compliant (Y/N)	Enforcement Action Taken?	Outcome
26 Sep 2019	Various consent non-compliances relating to water impoundment above the fill site; and agricultural use of areas of the fill that had not been adequately capped	N	Explanation requested	Council was advised that the Company was in serious financial difficulty. Blockage cleared and inspection schedule implemented to prevent future impoundment. Landowners farming operations staff advised that the filled area could not be grazed. Capping methodology and approximate timeframe provided to Council.
6 Apr 2019	Non-compliance with consent capping requirements	N	Abatement notice	On-going

26 September 2019

At inspection it was found that:

- There was an obstruction causing an increase in the level of the pond upstream of the fill area resulting in the ponded tributary coming in contact with previously discharged wood waste and the potential for increased leachate generation. This was non-complaint with condition 1 of consent 6412-1.
- Cattle had winter access to partially vegetated areas of the fill that did not have a final cap. Extensive pugging was found that would result in localised ponding and stormwater infiltration, increasing leachate generation. This was non-complaint with conditions 6 and 7 of consent 6413-2.1 and condition 1 of consent 7342-2.1.

The Company was given the opportunity to write in, stating the circumstances relating to the non-compliance and giving sufficient reason why enforcement action under the Resource Management Act 1991 should not be considered in this instance.

The Company explained that:

- Approximately one week after the impoundment was reported a staff member attempted to unblock the outflow from the pond above the fill area. The water level was still too high to see the grate and a rake was pulled over the outlet structure in an attempt to clear the any trapped weeds/debris that may have been obstructing the outlet grate. The site was re-visited and it was found that the pond level had dropped, however the outlet structure was still partially obstructed. The grate was cleared and the culvert outflow was checked at Monk Road. The estimated flow rate was 20 L/s showing that the pipe carrying the tributary under the fill area was now cleared. A further inspection was undertaken by the Company two weeks later and it was confirmed that the water level above pond outlet structure was at normal levels. Photos were provided to show the work undertaken.

- Investigation found that the instructions that the area should not be grazed had not been passed on to the land owner's farming operations staff. This instruction was relayed and all fencing was removed from the perimeter of the cap to ensure that there was no future grazing until the capping had been completed. A revised management plan was provided to Council detailing the capping methodology and a timeframe for the works to be undertaken. It was also explained that a mitigating circumstance for the capping not having been completed at that stage was that the Company had been suffering significant financial difficulties for a 10 year period, restricting the ability of the Company to expend funds. It was acknowledged that this in itself did not absolve the Company from the responsibility of managing consent compliance. It was intended that the works would be undertaken over the Christmas period, but was waiting on approval of the methodology from Council. However, the plan was not received until 17 December resulting in feedback on the plan not being provided until early January.

16 April 2019

Although it was found that the water impoundment issue and agricultural use of the filled area had been resolved, Council had previously been advised that the sawmill had closed, the sawmill site had been sold and therefore the fill site was no longer operational. It was found that the capping and revegetation required by resource consent 6413-2 had not been undertaken as per special conditions of the consent. An abatement notice was issued requiring works to be undertaken by 28 June 2019 to ensure compliance with resource consent conditions. The Company requested an extension to the abatement notice, and Council is continuing to work with the Company to ensure that these works are undertaken.

3 Discussion

3.1 Discussion of site performance

3.1.1 Monk Road site

There were no recent wood waste disposals or illegal dumping found at the site during the year under review.

There were no odour or dust issues noted during any of the inspections and no complaints were received about the site. The pipe installed under the fill was functional and was of sufficient length in the spring channel to ensure separation of the spring water from the wood waste as required by consent conditions. Although the BODCF and dissolved arsenic continued to be elevated in the contaminated spring water discharge, this was to a lesser extent than in the 2017-2018 year, and the receiving water component concentrations complied with consent conditions at the time of both sampling surveys.

Consent non-compliances were found at both inspections during the year under review.

At the first inspection it was found that the tributary was impounded above the fill area to an extent that was allowing the impounded water to come in direct contact with previously disposed material. The fill area had been grazed without a compliant capping barrier over the fill resulting in extensive pugging. These non-compliance both have the potential to result in increased leachate generation. The Company cleared the tributary pond outlet and put measures in place to ensure that this remained clear and that grazing of the cap would not occur in the future. A revised management plan was provided in December 2018 that although contained details of an adequate capping methodology, included a fenced race across the cap that would result in compromising the caps integrity (plan due by 2 May 2016).

On 5 March 2019 the Council was informed that the Sawmill site had been sold, but that none of the consents were being transferred to the new owners and that any legal or financial issues should be directed to the Company's Barrister.

At the second inspection it was found that the fill area had not been capped as per the management plan and an abatement notice was issued requiring that works be undertaken to comply with the conditions of the consent by 28 June 2019. Due to the issues in finding a consultant to help refine the capping plan an extension to this date was requested. Council is continuing to work with the Company to ensure that the site is adequately capped and the abatement notice is complied with prior to the Company being liquidated.

3.1.2 Village Settlement Road site

The cap was found to be in a satisfactory condition, with healthy vegetative cover across the site and no evidence of slumping observed.

3.2 Environmental effects of exercise of consents

3.2.1 Monk Road site

The discharge of leachate from the site was still having an effect on the environment immediately downstream of the discharge. It is noted that while contaminant levels, in particular BODCF and dissolved arsenic, remain elevated, the concentration appear to be decreasing somewhat. The receiving water quality conditions were met at the compliance point during both surveys and there were no significant adverse effects (for example heterotrophic growths or fish kills) observed at the time of the surveys.

3.2.2 Village Settlement Road site

Sampling by the Council showed that the remediation works undertaken in the 2013-2014 year have continued to have been successful. The site remained compliant with consent conditions in the on site buffer strip and beyond the site boundary.

It is noted that the site must remain compliant with the post closure component concentrations for at least five years, after which time consideration may be given to allowing the consent being surrendered on application from the Company. It should also be noted that the consent conditions were designed to reduce risk to the neighbour's property rather than being designed to have the site remediated to any particular land use guideline.

3.3 Evaluation of performance

A tabular summary of the consent holder's compliance record for the year under review is set out in Table 8 to Table 11.

Table 8 Summary of performance for Monk Road culvert consent 6412-1

Purpose: To erect, place and maintain a culvert in an unnamed tributary of the Kohi Stream in the Whenuakura catchment		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. The consent holder shall adopt the best practicable option when exercising the consent	Inspection and liaison with consent holder	Blockage found and addressed, however ponding was above level of uncapped fill material
2. The consent shall be exercised generally in accordance with the information provided in the application	Inspection and liaison with consent holder and review of Council records	Yes
3. The consent holder shall inform the Council 48 hrs prior to culvert installation and/or maintenance and again within 48 hrs of completion of works	Inspection and liaison with consent holder and review of Council records	No. Prior notice of maintenance works not received
4. The exercise of the consent shall not cause significant ponding on upstream property	Site inspection and review of incident register. No complaints received	Yes
5. The consent shall lapse after five years if not exercised	Consent has been exercised	N/A
6. Optional review provision	No further provision for review prior to expiry	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		Improvement required
Overall assessment of administrative performance in respect of this consent		Improvement required

N/A Not applicable

Table 9 Summary of performance for Monk Road untreated wood waste discharge consent 6413-2.1

Purpose: To discharge untreated wood waste from sawmill operations onto and into land		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. The consent holder shall supply a management plan for the activity by 2 May 2016. Plan to be maintained and followed at all times	Review of Council records. Plan provided 3 June 2016. Capping proposed was not compliant with consent conditions. Company advised this needed to be revised Adequate plan received 17 December 2018	No. Capping is behind schedule given in the plan
2. Specifies the type of untreated wood waste permitted to be discharged at the site	Site specific monitoring programme – site inspections	Yes
3. Materials to discharge in certain area	Inspection and liaison with consent holder	Yes
4. The consent holder shall be the sole source of material discharged	Inspection and liaison with consent holder	Yes
5. Discharged material not to enter water	Inspection and liaison with consent holder	Yes
6. The consent holder shall adopt the best practicable option when exercising the consent	Inspection and liaison with consent holder	No. Part of uncapped filled area returned to agricultural use
7. Specifications for capping and reinstatement	Inspection	No. Approximately half of the fill area had been returned to agricultural use despite the fill not having been capped to the requirements of this condition
8. Optional review provision	Opportunity for review June 2022	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent Overall assessment of administrative performance in respect of this consent		Improvement required Improvement required

N/A Not applicable

Table 10 Summary of performance for treated wood waste discharge consent 6528-2

Purpose: To discharge treated and untreated wood waste and associated leachate onto and into land		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adopt best practical option	Inspection and liaison with consent holder	Yes

Purpose: To discharge treated and untreated wood waste and associated leachate onto and into land		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
2. The consent holder shall supply a management plan for the activity	Review of Council records	Yes
3. Only wood waste shall be discharged to the site	Inspection and liaison with consent holder	N/A No discharges occurred at the site
4. No wood treatment chemicals or sludges shall be discharged to the site	Inspection and liaison with consent holder	N/A No discharges occurred at the site
5. The consent holder shall be the sole discharger to the site	Inspection and liaison with consent holder	N/A No discharges occurred at the site
6. The consent holder shall minimise storm water movement across the site	Inspection and liaison with consent holder	Yes
7. Fill capped to certain specifications	Inspection and soil sampling	Yes
8. Capped areas not to exceed certain contaminant limits	Inspection and soil sampling	Yes
9. Non capped areas not to exceed certain contaminant limits prior to closure	Inspection and soil sampling	Yes
10. Final toe of cap to meet certain specifications	Inspection	Yes
11. Maintenance of capped areas	Inspection	Yes
12. The consent holder shall notify Council 20 days prior to final capping	Review of Council records	Yes
13. The consent holder shall notify Council 7 days after final capping is complete	Inspection and liaison with consent holder. Condition previously met	N/A
14. The consent holder to retain consent for monitoring purposes for a minimum of five years after closure	Inspection and liaison with consent holder	Yes
15. Entire filled are must be capped and reinstated by June 2017	Inspection. Condition previously met	N/A

Purpose: To discharge treated and untreated wood waste and associated leachate onto and into land		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
16. Optional review provision	Opportunity for review June 2018, recommendation attached	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

N/A Not applicable

Table 11 Summary of performance for Monk Road leachate and stormwater consent 7342-2

Purpose: To discharge leachate and stormwater from a sawmill-waste disposal site into an unnamed tributary of the Kohi Stream		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. The consent holder shall adopt the best practicable option when exercising the consent	Inspection and liaison with consent holder	No. Pipe obstruction and pugging likely to increase leachate generation
2. Certain effects not to be present 50 m downstream of the discharge	Visual assessment and receiving water sampling	Yes
3. Certain parameters not to be exceeded at site KOI000130	Receiving water sampling	Yes
4. A review condition	Next opportunity for review June 2022	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		Improvement required
Overall assessment of administrative performance in respect of this consent		Improvement required

N/A Not applicable

Table 12 Evaluation of environmental performance over time

Year	Consent no	High	Good	Improvement req	Poor
2009-2010	6412	-	1	-	-
	6413	-	1	-	-
	6528	1	-	-	-
	7342	-	1	-	-
2010-2011	6412	-	1	-	-
	6413	1	-	-	-
	6528	-	1	-	-
	7342	1	-	-	-

Year	Consent no	High	Good	Improvement req	Poor
2011-2012	6412	-	-	1	-
	6413	1	-	-	-
	6528	-	-	1	-
	7342	1	-	-	-
2012-2013	6412	-	1	-	-
	6413	1	-	-	-
	6528	1	-	-	-
	7342	1	-	-	-
2013-2014	6412	1	-	-	-
	6413	1	-	-	-
	6528	-	-	1	-
	7342	1	-	-	-
2014-2015	6412	1	-	-	-
	6413	1	-	-	-
	6528	1	-	-	-
	7342	1	-	-	-
2015-2016	6412	1	-	-	-
	6413	-	-	1	-
	6528	1	-	-	-
	7342	1	-	-	-
2016-2017	6412	1	-	-	-
	6413	-	-	-	1
	6528	1	-	-	-
	7342	-	-	1	--
2017-2018	6412	-	-	1	-
	6413	-	-	1	-
	6528	1	-	-	-
	7342	-	-	1	1
2018-2019	6412	-	-	1	-
	6413	-	-	1	-
	6528	1	-	-	-
	7342	-	-	1	-
Totals		22	6	11	2

An improvement in the Company's environmental and administrative performance is required. During the year under review there were non-compliances with the Company's consent with respect to a lack of culvert maintenance causing impounding, agricultural use of uncapped areas of the fill and the capping schedule given in the site management plan. An abatement notice was issued requiring the capping to be

undertaken. An extension to the abatement notice timeframe was requested, and at the time of writing the report the Council is continuing to work with the Company to ensure the abatement notice is complied with. It is noted that the Company has been dormant since March 2019 and is scheduled to go into liquidation after March 2020. Ratings are as defined in Section 1.1.4

3.4 Recommendations from the 2017-2018 Annual Report

In the 2017-2018 Annual Report, it was recommended:

1. THAT, in the first instance, monitoring of discharges from Waverley Sawmills Ltd sites on Monk Road and Village Settlement Road in the 2018-2019 year continues at the same level as in 2017-2018, but with one set of follow-up boundary soil samples at the Village Settlement Road site.
2. THAT should there be issues with environmental or administrative performance in 2018-2019, monitoring may be adjusted to reflect any additional investigation or intervention as found necessary.

3.5 Alterations to monitoring programmes for 2019-2020

In designing and implementing the monitoring programmes for air/water discharges in the region, the Council has taken into account:

- the extent of information already made available through monitoring or other means to date;
- its relevance under the RMA;
- the Council's obligations to monitor consented activities and their effects under the RMA;
- the record of administrative and environmental performances of the consent holder; and
- reporting to the regional community.

The Council also takes into account the scope of assessments required at the time of renewal of permits, and the need to maintain a sound understanding of industrial processes within Taranaki exercising resource consents.

It is anticipated that the fill area will be capped and, with the exception of the leachate discharge consent (7342-2), the consents will be surrendered. It is therefore proposed that for 2019-2020 the site be monitored as part of a general annual inspection round rather than continuing to have a site specific monitoring programme.

It should be noted that the proposed monitoring represents a reasonable and risk-based level of monitoring for the site in question. The Council reserves the right to subsequently adjust the monitoring from that initially proposed, should the need arise if potential or actual non-compliance is determined at any time during 2019-2020.

4 Recommendations

1. THAT in the first instance, monitoring of consented activities at Monk Road wood waste disposal site in the 2019-2020 be monitored as part of a general annual inspection round rather than continuing to have a site specific monitoring programme.
2. THAT should there be issues with environmental or administrative performance in 2019-2020, monitoring may be adjusted to reflect any additional investigation or intervention as found necessary.

Glossary of common terms and abbreviations

The following abbreviations and terms may be used within this report:

As*	Arsenic.
BOD	Biochemical oxygen demand. A measure of the presence of degradable organic matter, taking into account the biological conversion of ammonia to nitrate.
BODCF	Carbonaceous biochemical oxygen demand. A measure of the presence of degradable organic matter in a filtered sample, excluding the biological conversion of ammonia to nitrate.
CCAB	Copper, chromium, arsenic, and boron, which may be present at the sites from chromated copper arsenate and boron preserved timber.
Conductivity	Conductivity, an indication of the level of dissolved salts in a sample, usually measured at 25°C and expressed in $\mu\text{S}/\text{cm}$.
Cr*	Chromium.
Cu*	Copper.
Fresh	Elevated flow in a stream, such as after heavy rainfall.
g/m^3	Grams per cubic metre, and equivalent to milligrams per litre (mg/L). In water, this is also equivalent to parts per million (ppm), but the same does not apply to gaseous mixtures.
Incident	An event that is alleged or is found to have occurred that may have actual or potential environmental consequences or may involve non-compliance with a consent or rule in a regional plan. Registration of an incident by the Council does not automatically mean such an outcome had actually occurred.
Intervention	Action/s taken by Council to instruct or direct actions be taken to avoid or reduce the likelihood of an incident occurring.
Investigation	Action taken by Council to establish what were the circumstances/events surrounding an incident including any allegations of an incident.
Incident Register	The Incident register contains a list of events recorded by the Council on the basis that they may have the potential or actual environmental consequences that may represent a breach of a consent or provision in a Regional Plan.
L/s	Litres per second.
m^2	Square metres.
Mixing zone	The zone below a discharge point where the discharge is not fully mixed with the receiving environment. For a stream, conventionally taken as a length equivalent to 7 times the width of the stream at the discharge point.
$\mu\text{S}/\text{cm}$	Microsiemens per centimetre.
pH	A numerical system for measuring acidity in solutions, with 7 as neutral. Numbers lower than 7 are increasingly acidic and higher than 7 are increasingly alkaline. The scale is logarithmic i.e. a change of 1 represents a ten-fold change in strength. For example, a pH of 4 is ten times more acidic than a pH of 5.
Physicochemical	Measurement of both physical properties (e.g. temperature, clarity, density) and chemical determinants (e.g. metals and nutrients) to characterise the state of an environment.

Resource consent	Refer Section 87 of the RMA. Resource consents include land use consents (refer Sections 9 and 13 of the RMA), coastal permits (Sections 12, 14 and 15), water permits (Section 14) and discharge permits (Section 15).
RMA	<i>Resource Management Act 1991</i> and including all subsequent amendments.
Temp	Temperature, measured in °C (degrees Celsius).

*an abbreviation for a metal or other analyte may be followed by the letters 'As', to denote the amount of metal recoverable in acidic conditions. This is taken as indicating the total amount of metal that might be solubilised under extreme environmental conditions. The abbreviation may alternatively be followed by the letter 'D', denoting the amount of the metal present in dissolved form rather than in particulate or solid form.

For further information on analytical methods, contact a Science Services Manager.

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- Taranaki Regional Council (2009): *Waverley Sawmills Limited 2008-2009 Annual Compliance Monitoring Report*. Technical Report 2009-72
- Taranaki Regional Council (2008): *Waverley Sawmills Limited 2007-2008 Annual Compliance Monitoring Report*. Technical Report 2007-86
- Taranaki Regional Council (2007): *Waverley Sawmills Limited 2005 -2007 Biennial Compliance Monitoring Report*. Technical Report 2006-77
- Taranaki Regional Council (2001). *Regional Fresh Water Plan for Taranaki, 2001*. Taranaki. Taranaki Regional Council

Appendix I

Resource consents held by Waverley Sawmills Ltd

(For a copy of the signed resource consent
please contact the TRC Consents department)

Consents held in respect of the Monk Road site

Consent number	Purpose	Granted	Review	Expires	Consent changes during the year under review
<i>Water discharge permits</i>					
7342-2	To discharge leachate and stormwater from a sawmill-waste disposal site into an unnamed tributary of the Kohi Stream	7 October 2010	June 2022	1 June 2028	None
<i>Discharges of waste to land</i>					
6413-2.1	To discharge untreated wood waste from sawmill operations onto and into land	7 October 2010	June 2022	1 June 2028	None
<i>Land use permits</i>					
6412-1	To erect, place and maintain a culvert in an unnamed tributary of the Kohi Stream in the Whenuakura catchment	4 March 2005	-	1 June 2022	None

Consent held in respect of the Village Settlement Road site

Consent number	Purpose	Granted	Review	Expires	Consent changes during the year under review
<i>Discharges of waste to land</i>					
6528-2	To discharge treated and untreated wood waste and associated leachate onto and into land	31 July 2012	-	1 June 2022	None

Water abstraction permits

Section 14 of the RMA stipulates that no person may take, use, dam or divert any water, unless the activity is expressly allowed for by a resource consent or a rule in a regional plan, or it falls within some particular categories set out in Section 14. Permits authorising the abstraction of water are issued by the Council under Section 87(d) of the RMA.

Water discharge permits

Section 15(1)(a) of the RMA stipulates that no person may discharge any contaminant into water, unless the activity is expressly allowed for by a resource consent or a rule in a regional plan, or by national regulations. Permits authorising discharges to water are issued by the Council under Section 87(e) of the RMA.

Air discharge permits

Section 15(1)(c) of the RMA stipulates that no person may discharge any contaminant from any industrial or trade premises into air, unless the activity is expressly allowed for by a resource consent, a rule in a regional plan, or by national regulations. Permits authorising discharges to air are issued by the Council under Section 87(e) of the RMA.

Discharges of wastes to land

Sections 15(1)(b) and (d) of the RMA stipulate that no person may discharge any contaminant onto land if it may then enter water, or from any industrial or trade premises onto land under any circumstances, unless

the activity is expressly allowed for by a resource consent, a rule in a regional plan, or by national regulations. Permits authorising the discharge of wastes to land are issued by the Council under Section 87(e) of the RMA.

[Land use permits](#)

Section 13(1)(a) of the RMA stipulates that no person may in relation to the bed of any lake or river use, erect, reconstruct, place, alter, extend, remove, or demolish any structure or part of any structure in, on, under, or over the bed, unless the activity is expressly allowed for by a resource consent, a rule in a regional plan, or by national regulations. Land use permits are issued by the Council under Section 87(a) of the RMA.

[Coastal permits](#)

Section 12(1)(b) of the RMA stipulates that no person may erect, reconstruct, place, alter, extend, remove, or demolish any structure that is fixed in, on, under, or over any foreshore or seabed, unless the activity is expressly allowed for by a resource consent, a rule in a regional plan, or by national regulations. Coastal permits are issued by the Council under Section 87(c) of the RMA.

Discharge Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Waverley Sawmills Limited
 P O Box 44
 WAVERLEY 4544

Decision Date: 29 May 2012

Commencement
Date: 29 May 2012

Conditions of Consent

Consent Granted: To discharge untreated wood waste from sawmill
 operations onto and into land at or about (NZTM)
 1741513E-5601129N

Expiry Date: 1 June 2028

Review Date(s): June 2016, June 2022

Site Location: Monk Road, Waverley

Legal Description: Secs 71 & 72 Blk II Wairoa SD (Discharge site)

Catchment: Whenuakura

Tributary: Kohi

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General condition

- a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act 1991.

Special conditions

1. Within three months of the granting of this consent, the consent holder shall prepare and maintain a stormwater management plan that documents how the site is to be managed to minimise the infiltration of stormwater and spring water into the filled areas. This plan shall be followed at all times, shall be certified by the Chief Executive, Taranaki Regional Council, and shall include but not necessarily be limited to:
 - a) the manner in which any stormwater water will be isolated diverted from the fill area;
 - b) the manner in which any spring water will be isolated and diverted from the fill;
 - c) a timetable for capping works for any completed areas; and
 - d) details of final contouring and stormwater diversion of completed capped areas.
2. This consent only authorises the discharge of untreated wood shavings, sawdust and bark at the site. The discharge of any other material or waste at this site shall not occur.
3. The discharge of materials shall only occur in the shaded area shown in Figure 1 (attached).
4. The Waverly Sawmills Limited sawmill site at Oturi Road, Waverley shall be the sole source of material discharged at the site.
5. The exercise of this consent shall not result in any discharged material entering surface water.
6. The consent holder shall at all times adopt the best practicable option or options (as defined in section 2 of the Resource Management Act 1991) to prevent or minimise any actual or potential effect on the environment arising from any discharge at the site.
7. Any area used for the discharge of material under this consent shall be capped and re-vegetated. The cap shall be contoured to ensure no ponding occurs over the discharge area and shall consist of a minimum of 300 mm of clean clay and 100 mm of top soil.
8. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2016 and/or June 2022 for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Signed at Stratford on 29 May 2012

For and on behalf of
Taranaki Regional Council

Director-Resource Management



Discharge Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Waverley Sawmills Limited
 PO Box 44
 Waverley 4544

Decision Date 2 February 2016
(Change):

Commencement Date 2 February 2016 (Granted Date: 29 May 2012)
(Change):

Conditions of Consent

Consent Granted: To discharge untreated wood waste from sawmill operations
 onto and into land

Expiry Date: 1 June 2028

Review Date(s): June 2016, June 2022

Site Location: Monk Road, Waverley

Legal Description: Secs 71 & 72 Okotuku Dist (Discharge site)

Grid Reference (NZTM) 1741510E-5601130N

Catchment: Whenuakura

Tributary: Kohi

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General condition

- a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act 1991.

Special conditions

1. Within three months of the granting of this consent, the consent holder shall prepare and maintain an updated stormwater management plan that documents how the site is to be managed to minimise the infiltration of stormwater and spring water into the filled areas. This plan shall be followed at all times, shall be certified by the Chief Executive, Taranaki Regional Council, and shall include but not necessarily be limited to:
 - a) the manner in which any stormwater water will be isolated and diverted from the fill area;
 - b) the manner in which any spring water will be isolated and diverted from the fill;
 - c) a timetable for capping works for any completed areas; and
 - d) details of final contouring and stormwater diversion of completed capped areas.
2. This consent only authorises the discharge of the following wood wastes. The discharge of any other material or waste at this site shall not occur:
 - Untreated wood shavings;
 - Sawdust;
 - Bark;
 - Slovens and sawmill waste;
 - Morbark chipper slovens, chunks and fines;
 - Batten plant and processing shed off-cuts;
 - Broken fillet sticks;
 - Furnace ash; and
 - Yard sweepings.
3. The discharge of materials shall only occur in the shaded area shown in Figure 1 (attached).
4. The Waverly Sawmills Limited sawmill site at Oturi Road, Waverley shall be the sole source of material discharged at the site.
5. The exercise of this consent shall not result in any discharged material entering surface water.
6. The consent holder shall at all times adopt the best practicable option or options (as defined in section 2 of the Resource Management Act 1991) to prevent or minimise any actual or potential effect on the environment arising from any discharge at the site.
7. Any area used for the discharge of material under this consent shall be capped and re-vegetated. The cap shall be contoured to ensure no ponding occurs over the discharge area and shall consist of a minimum of 300 mm of clean clay and 100 mm of top soil.

Consent 6413-2.1

8. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2016 and/or June 2022 for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Signed at Stratford on 2 February 2016

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management



Figure 1 Discharge area at Waverley Sawmill's Monk Road site

Discharge Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Waverley Sawmills Limited
 P O Box 44
 WAVERLEY 4544

Decision Date: 31 July 2012

Commencement
Date: 31 July 2012

Conditions of Consent

Consent Granted: To discharge treated and untreated wood waste and
 associated leachate onto and into land at or about (NZTM)
 1744652E-5597502N

Expiry Date: 1 June 2022

Review Date(s): June 2014, June 2018

Site Location: Village Settlement Road, Waverley

Legal Description: Lot 6 DP 5250 Blk VIII Wairoa SD (Discharge site)

Catchment: Waitotara

Tributary: Moumahaki

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General condition

- a. The consent holder shall pay to the Taranaki Regional Council [the Council] all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act.

Special conditions

1. The consent holder shall at all times adopt the best practicable option (as defined in section 2 of the Resource Management Act 1991) to prevent or minimise any actual or potential effect on the environment arising from any discharge at the site. This includes, but is not necessary limited to:
 - a) controlling stormwater to minimise infiltration into the filled areas;
 - b) leachate control to minimise to migration of contaminants from the tipface
 - c) minimising the area of discharged wood waste that is uncapped; and
 - d) minimising the duration for which discharged wood waste remains uncapped.
2. Within three months of this consent being granted the consent holder shall prepare and maintain a site management plan that documents how the requirements set out in this consent will be met. This plan shall be followed at all times and after having been certified by the Chief Executive, Taranaki Regional Council.
3. This consent only authorises the discharge of treated and untreated wood shavings, sawdust and bark at the site. The discharge of any other material at this site shall not occur.
4. The discharge shall only occur in the area depicted by the orange shading shown in Figure 1 (attached) and in particular but without limitation no discharges shall occur within 25 metres of the property's boundary.
5. The Waverly Sawmills Limited sawmill site at Oturi Road, Waverley shall be the sole source of material discharged at the site.
6. The consent holder shall establish and maintain all necessary stormwater structures and retention bunding to ensure that any tipface runoff is minimised and contained within the landfill footprint. This includes the establishment of new drains as required when new discharge cells are constructed.
7. When each discharge cell is full it shall be capped as soon as is practicable. The cap shall consist of a minimum of 600 mm of clean compacted clay and 200 mm of clean topsoil and shall contoured to ensure that stormwater is diverted away from the open tipface and drains freely from the capped area.

8. During the operational life of the landfill, the exercise of this consent shall not result in any of the maximum concentrations of contaminants shown in the table below being exceeded in the top 150 mm of soil beyond the site boundary.

Contaminant	Maximum concentration
Arsenic	30 mg kg ⁻¹
Boron	380 mg kg ⁻¹
Total chromium	76 mg kg ⁻¹
Copper	130 mg kg ⁻¹

9. Immediately prior to the final capping of the last discharge cell, the consent holder shall undertake any soil remediation action required to ensure that the levels of contaminants in the top 150 mm of soil in the areas identified in the table below do not exceed the respective maximum concentrations as also set out in the table below.

Soil Contaminant	Maximum concentrations		
	Capped Areas	Beyond site boundary	Area between toe and south boundary*
Arsenic	30 mg kg ⁻¹	30 mg kg ⁻¹	38 mg kg ⁻¹
Total chromium	76 mg kg ⁻¹	76 mg kg ⁻¹	76 mg kg ⁻¹
Copper	40 mg kg ⁻¹	42 mg kg ⁻¹	130 mg kg ⁻¹
Boron	380 mg kg ⁻¹	20 mg kg ⁻¹	160 mg kg ⁻¹

*Area depicted by purple shading in Figure 1

10. After completing the final cell, the toe of the filled area shall be capped in a manner that ensures that the fill material is completely encapsulated with 600 mm of compacted clay prior to applying topsoil.
11. For the duration this consent is in effect, the consent holder shall maintain the capped areas at the site to following standards:
- all areas capped prior to the granting of this consent shall be maintained to their current standard;
 - all areas capped during the exercise of this consent shall be maintained to the standard set out in special condition 7;
 - with the exception of access tracks, a vegetative cover shall be maintained on all capped areas of the site; and
 - an appropriate contour shall be maintained on all capped areas to ensure adequate drainage.
12. The consent holder shall notify the Taranaki Regional Council 20 days prior to commencing final capping of the final discharge cell. Notification shall include the consent number and a brief description of the activity consented and shall be emailed to worknotification@trc.govt.nz.

Consent 6528-2

13. The consent holder shall notify the Taranaki Regional Council within 7 days of the completion of the final capping of the final discharge cell. Notification shall include the consent number and a brief description of the activity consented and shall be emailed to worknotification@trc.govt.nz. Once the Taranaki Regional Council receives and acknowledges this notification, no further discharges may occur at the site.
14. This consent cannot be surrendered for at least five years after reinstatement of the site, during which soil quality monitoring will be undertaken to ensure that the contaminants in the fill have been effectively contained. During this period the level of soil contaminant must not exceed the limits set out in special condition 9.
15. To ensure that a five year post closure monitoring window is available, the site must be closed to discharges, reinstated and remediated by no later than June 2017.
16. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2014 and/or June 2018 for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Signed at Stratford on 31 July 2012

For and on behalf of
Taranaki Regional Council

Director-Resource Management

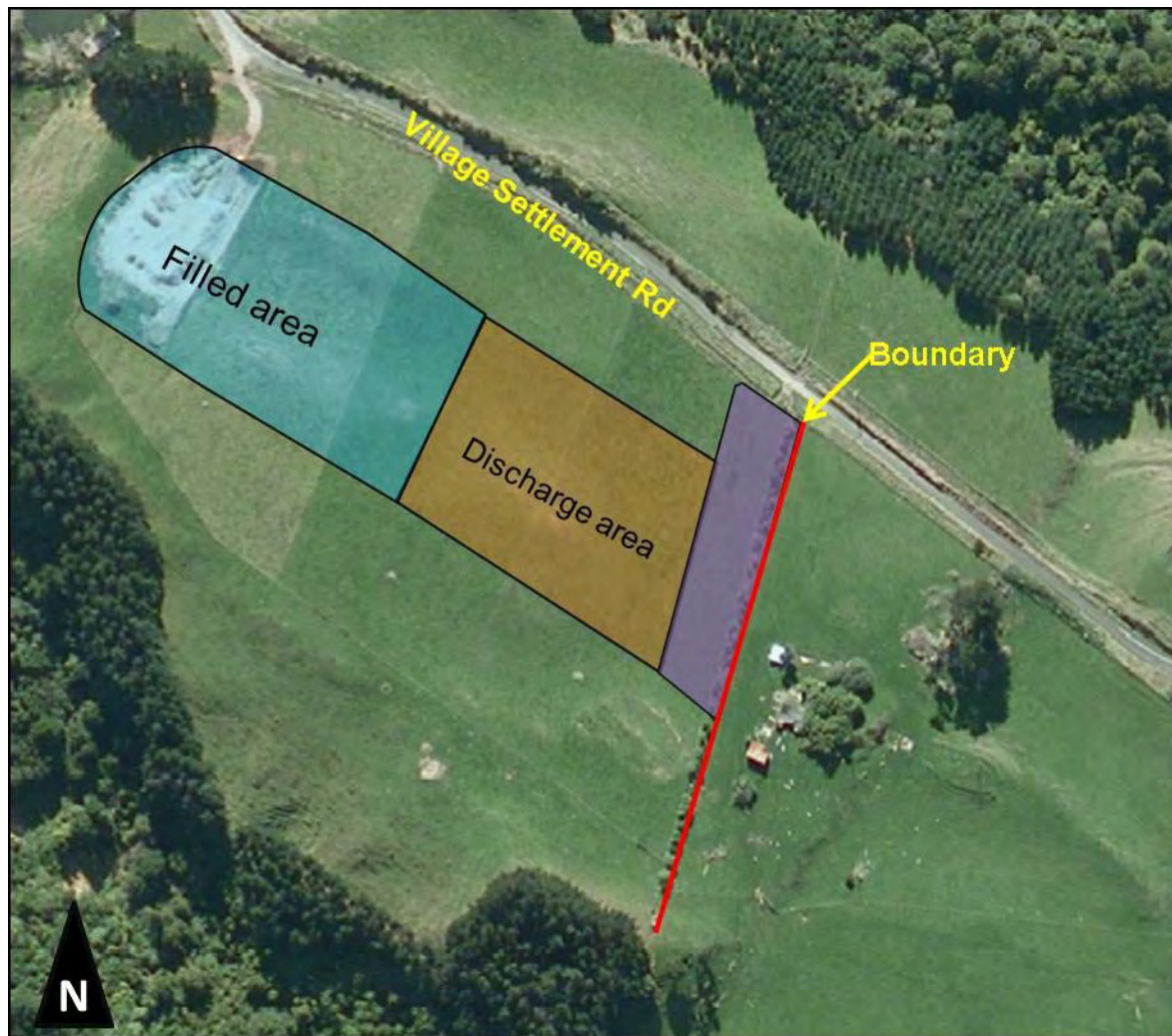


Figure 1 Discharge area at Waverley Sawmills Village Settlement Rd site

Discharge Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Waveley Sawmills Limited
P O Box 44
WAVERLEY 4544

Decision Date
(Change): 4 March 2014

Commencement Date
(Change): 4 March 2014 (Granted: 7 October 2010)

Conditions of Consent

Consent Granted: To discharge leachate and stormwater from a sawmill-waste disposal site into an unnamed tributary of the Kohi Stream

Expiry Date: 1 June 2028

Review Date(s): June 2014, June 2016, June 2022

Site Location: Monk Road, Waverley

Legal Description: Sec 71 Blk II Wairoa SD (Discharge site)
Pt Lot 2 DP 4352 (Discharge source)

Grid Reference (NZTM) 1741531E-5601034N

Catchment: Whenuakura

Tributary: Kohi

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General condition

- a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance to section 36 of the Resource Management Act 1991.

Special conditions

1. Notwithstanding any other condition of this consent, the consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.
2. The exercise of this consent shall not give rise to any or all of the following effects in the unnamed tributary of the Kohi Stream at a point 50 metres downstream of the discharge;
 - a) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - b) any conspicuous change in the colour or visual clarity;
 - c) any emission of objectionable odour;
 - d) the rendering of fresh water unsuitable for consumption by farm animals;
 - e) any significant adverse effects on aquatic life.
3. The exercise of this consent shall not cause the receiving water at site KOI000130 (1741323E-5600500N) to breach the following standards;
 - a) concentration of filtered carbonaceous biochemical oxygen demand no greater than 3.0 g/m³;
 - b) concentration of dissolved copper demand no greater than 0.01 g/m³;
 - c) concentration of dissolved chromium demand no greater than 0.1 g/m³;
 - d) concentration of dissolved arsenic demand no greater than 0.1 g/m³.
4. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2012, 2014, 2016 and/or June 2022 for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Signed at Stratford on 4 March 2014

For and on behalf of
Taranaki Regional Council

A D McLay
Director-Resource Management