

# Public Health Odour Assessment of Proposed Composting Operation at Kokatahi

**Dr Jonathan Jarman (retired)**

**27 January 2026**

## Executive Summary

An application has been lodged with the West Coast Regional Council to establish a composting facility adjacent to the rural residential area of Kokatahi. The applicant proposes to compost a variety of organic materials. The West Coast Regional Council contracted Mote Limited to carry out an odour assessment on the proposal which found that some of the proposed composting feedstock was high risk for producing offensive odours. Meteorological modelling showed an effective odour transport pathway that included a large part of the Kokatahi community.

Households within the predicted odour dispersion radius were surveyed during December 2025 and January 2026 and it was found that a high proportion of people were at-risk of adverse odour-related health effects and that the area met the definition of a high sensitivity receptor. There were 27 households with 70 people normally resident within this zone. This did not include the residence of the applicant, the school (40 students and three staff), or an accommodation provider (which sleeps up to 14 people).

When the source odour potential, odour pathway, and high sensitivity receptor population are considered together, it is concluded that the proposed facility presents a substantial risk to the health and well-being of the Kokatahi community.

Two recommendations are made:

1. It is recommended that the proposed composting facility is located a minimum of 870 metres from the nearest residential property, accommodation provider, or school.
2. I would also strongly recommend that the Hearing Committee seeks technical advice from their local Public Health Service before awarding any consent to establish a composting facility.

## 1. Introduction

On 12 December 2025, Dr George Tripe, a resident from Kokatahi, contacted me about the proposed composting facility at Kokatahi and asked for my assistance.

I am a retired medical practitioner and public health medicine specialist. During my 28 years as a Medical Officer of Health, I gained experience in a wide variety of public health issues which included working with three separate communities affected by odour pollution. One of these communities was exposed to environmental odours from a composting facility at Uruti in Taranaki.

Due to my experiences with communities with odour pollution, I co-authored a research paper *More than just a bad smell: Odour pollution and health in Aotearoa New Zealand* which was published in 2025. Our study found that odour pollution incidents are common in Aotearoa New Zealand with 36 communities experiencing significant environmental odour problems between 2016 and 2025. Three of these odour incidents were compost related.<sup>1</sup>

## 2. Context

Von Ah Contracting Limited has submitted a resource consent application to establish and operate a composting facility on rural land at Duck Creek Farm, Kokatahi. The applicant plans to compost a variety of organic materials that include paunch grass, wastewater sludge, dairy farm manure, green waste, old baleage, and animal carcasses.<sup>2</sup>

The composting process is one in which micro-organisms (and small animals) break down plant material and similar organic matter to produce a humus-like final material, along with carbon dioxide, water and heat. Location and siting are important

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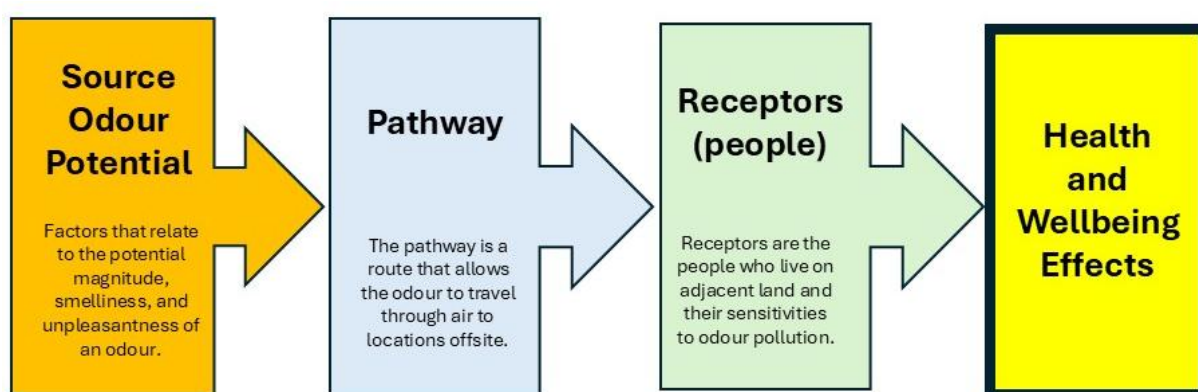
<sup>1</sup> Jarman J and Wickham L. More than just a bad smell: Odour pollution and health in Aotearoa New Zealand. Public Health Communication Centre. 2 October 2025. <https://www.phcc.org.nz/briefing/more-just-bad-smell-odour-pollution-and-health-aotearoa-new-zealand>

<sup>2</sup> Baynham P. Recommended odour notification zone associated with von Ah Contracting Composting Application. Mote Limited. May 2025. <https://www.wcrc.govt.nz/services/consents-compliance/publicly-notified-consent-applications/limited-notified-consent-applications>

factors that should be considered by both potential operators and planning authorities as composting facilities have the potential to impact human health, amenity and environment.

There are three main ingredients required before an environmental odour causes adverse health and wellbeing effects in exposed people – (1) source odour potential, (2) a pathway, and (3) people (receptors).<sup>3</sup> See Diagram 1.

**Diagram 1. Outline of Source-Pathway-Receptor concept.**



Paul Baynham from Mote Limited completed an odour assessment for the West Coast Regional Council on the von Ah composting proposal in December 2024.<sup>4</sup> His report provided information on the source odour potential and on the pathway. This report was updated in May 2025 to incorporate more recent information from the applicant. He used basic odour receptor modelling to estimate a nuisance odour dispersion radius. See map below. The area potentially affected by odours was estimated to be within 870 metres of the proposed site and “extends to the east through to include both sides of Ackland Street in Kokatahi”.<sup>5</sup>

<sup>3</sup> Bull et al. IAQM Guidance on the assessment of odour for planning – version 1.1. Institute of Air Quality Management. July 2018. <https://www.iaqm.co.uk/text/guidance/odour-guidance-2014.pdf>

<sup>4</sup> Baynham P. Odour assessment report associated with von Ah Contracting Composting Proposal. Mote Limited. December 2024. <https://www.wcrc.govt.nz/services/consents-compliance/publicly-notified-consent-applications/limited-notified-consent-applications>

<sup>5</sup> Baynham P. Recommended odour notification zone associated with von Ah Contracting Composting Application. Mote Limited. May 2025. <https://www.wcrc.govt.nz/services/consents-compliance/publicly-notified-consent-applications/limited-notified-consent-applications>



**Area potentially affected by nuisance odours from proposed composting operation (Bayham P, May 2025).**

However, there was no detailed information in the Mote odour assessment report on the people who will live beside the composting facility and their sensitivities. Adjacent to the proposed composting operation is the rural residential community of Kokatahi. There is a school, church, hall, hotel, accommodation provider and a number of residential properties. The people who live adjacent to proposed composting facilities are important because they experience the most significant negative impacts and generate the most complaints.

### 3. Objective

The purpose of this report is to determine the numbers and sensitivity of people who live in the Mote nuisance odour dispersion radius at Kokatahi and then combine this with information on source odour potential and pathway to give an overall likelihood of the effects on health and wellbeing.

Receptor sensitivity is defined as a combination of the likelihood that individuals will suffer odour-related health effects (people most at risk from the health effects of odour pollution are children, pregnant women, older adults, and people with pre-existing health conditions particularly chronic obstructive pulmonary disease, emphysema and

asthma<sup>6</sup>), and the characteristics of the land use, including the time of day and reason people are at the particular location.<sup>7</sup>

## 4. Methods

The estimated nuisance odour dispersion radius from the May 2025 update was used to determine the potential exposed population (receptors). The area extended east from the proposed site to include both sides of Acland Street.<sup>8</sup> Dr George Tripe carried out a door-to-door survey of residences within this area during December 2025 and January 2026. A copy of the questionnaire is attached as Appendix One.

## 5. Results

The survey found that there were 27 households with 70 people normally resident within the nuisance odour dispersion radius. This did not include residence of the applicant, the school (40 students and three staff), or a busy accommodation provider (which sleeps up to 14 people). Questionnaires were unable to be completed for two households. One was an empty home as the resident was in a rest home in Hokitika.

### Key findings from the survey (from 25 interviewed households)

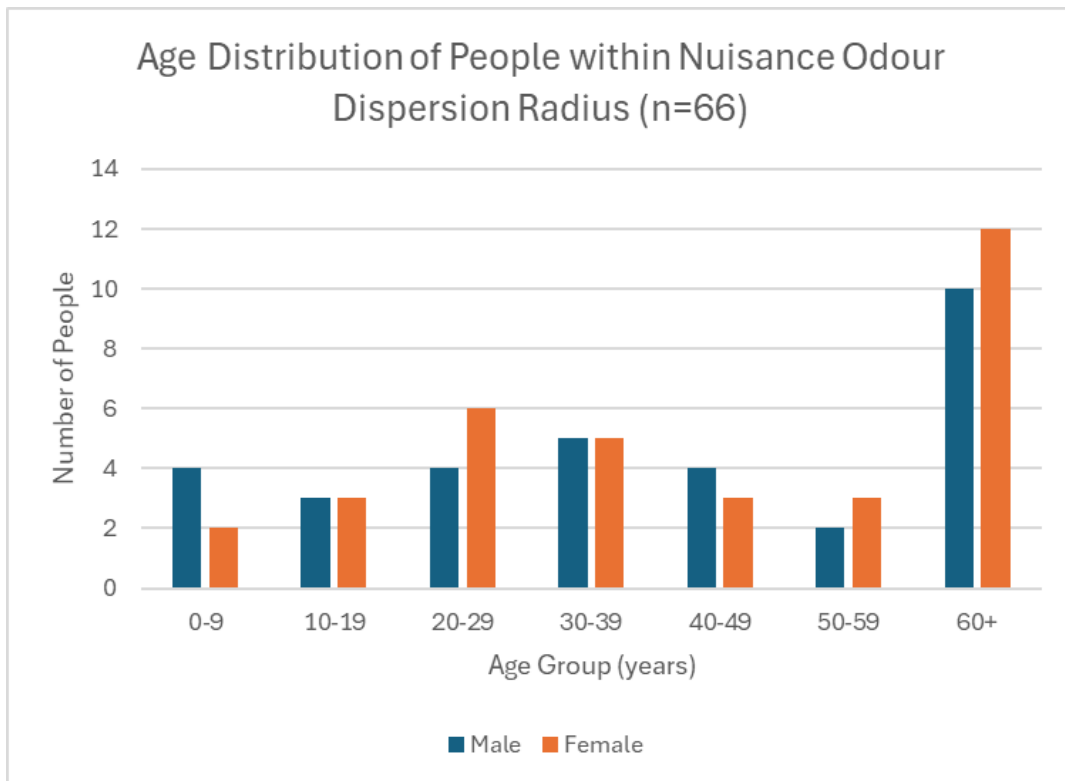
1. A third of people (33.3%) within the nuisance odour dispersion radius were aged 60 years or older.

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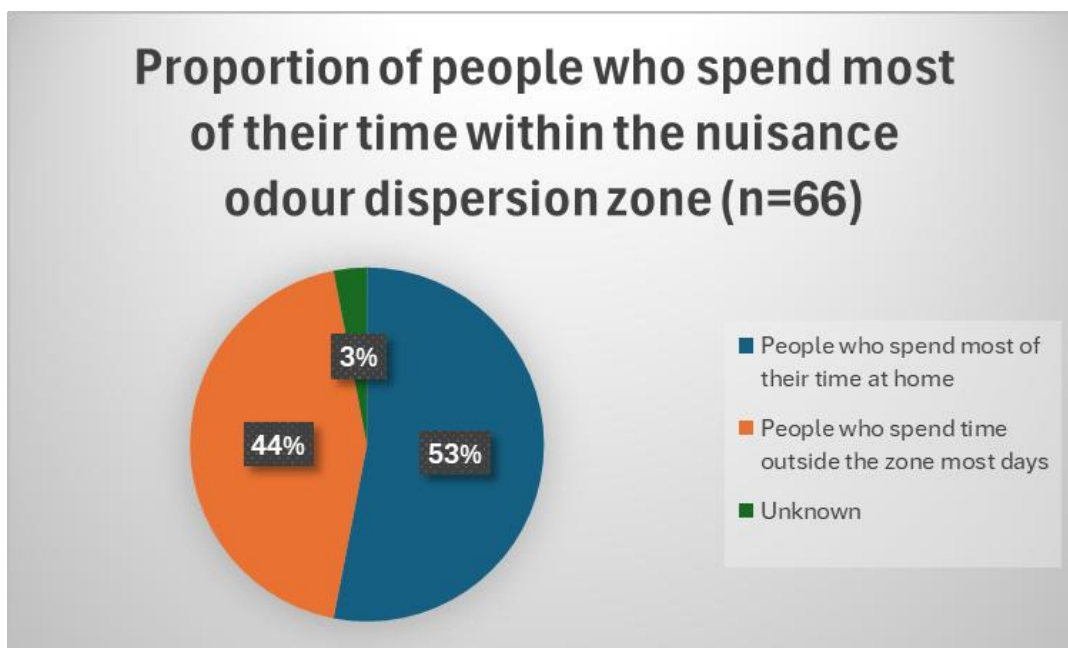
<sup>6</sup> Agency for Toxic Substances and Disease Registry. Understanding Your Risk for Environmental Odors. Retrieved 25 January 2025 from <https://www.atsdr.cdc.gov/odors/populations-at-risk/index.html>

<sup>7</sup> Ministry for the Environment. Good Practice Guide for Assessing and Managing Odour. 2016. <https://environment.govt.nz/assets/Publications/good-practice-guide-odour.pdf>

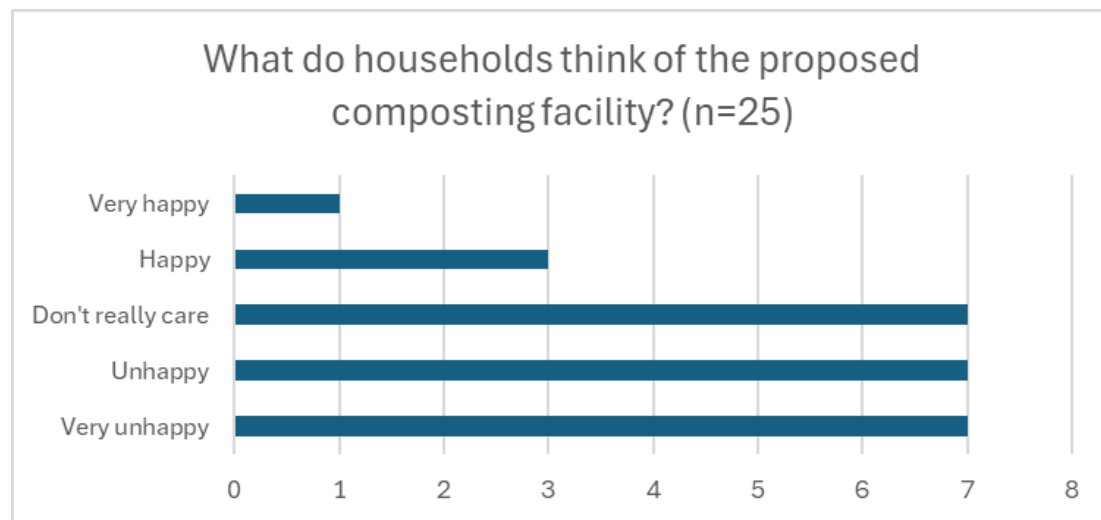
<sup>8</sup> Baynham P. Recommended odour notification zone associated with von Ah Contracting Composting Application. Mote Limited. May 2025. <https://www.wcrc.govt.nz/services/consents-compliance/publicly-notified-consent-applications/limited-notified-consent-applications>



2. One person reported having asthma, another chronic obstructive pulmonary disease, and two people said that they had mental health issues.
3. Most people (53%) spent most of the time (day and night) within the nuisance odour dispersion zone.



4. Most households (56%) were either unhappy or very unhappy about the proposed composting facility.



5. A high proportion of households (68%) specifically mentioned liking the area and used descriptions such as “quiet”, “rural”, “peaceful”, “clean air” and “love the area”. One household was very angry that they were not informed of the possible effects of the proposed composting facility when they recently bought their property.
6. Two households reported already smelling odours from the von Ah composting site.
7. Other public health concerns mentioned by households included:
- Contamination of roof water supply (2)
  - Contamination of groundwater (2)
  - Legionnaires disease (1)
  - Dust (1)

## Discussion

The door-to-door survey found that a high proportion of people who live within the estimated nuisance odour dispersion radius at Kokatahi were high sensitivity receptors and at-risk of adverse odour-related health and wellbeing effects. As well as residences



with people of high sensitivity, there is a school with 40 students, and an accommodation provider.

There is strong international evidence showing that health and well-being are linked to environmental odours. Adverse health effects from odour pollution include headache, cough, vomiting, and depression.<sup>9</sup> See diagram 2.

**Diagram 2. Common symptoms from exposure to odour pollution<sup>10</sup>**

| Organ / health domain | Symptom                                                                                                               |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------|
| Brain                 | Headache, drowsiness, dizziness                                                                                       |
| Nose                  | Irritation, congestion                                                                                                |
| Eyes                  | Irritation, watery or dry                                                                                             |
| Throat                | Irritation, hoarseness, sore throat                                                                                   |
| Lungs                 | Cough/phlegm, chest tightness, shortness of breath, wheezing, sleep problems from irritation or cough, asthma         |
| Heart                 | Palpitations                                                                                                          |
| Gastrointestinal      | Nausea/ vomiting, diarrhoea                                                                                           |
| Mental wellbeing      | Annoyance, sleep problems, depression, stress, anger, fatigue, confusion, anxiety, mood states, lower quality of life |

### Comparison with another composting facility

When I worked as a Medical Officer of Health in Taranaki, I had personal experience with a composting facility at Uruti that produced offsite odours. During 2020-2021 there were 83 odour complaints to the Taranaki Regional Council that resulted in five infringement notices for causing offensive and objectionable odours beyond the boundary. During 2021-2022 there were 63 odour complaints that resulted in one

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<sup>9</sup> Jarman J and Wickham L. More than just a bad smell: Odour pollution and health in Aotearoa New Zealand. Public Health Communication Centre. 2 October 2025.  
<https://www.phcc.org.nz/briefing/more-just-bad-smell-odour-pollution-and-health-aotearoa-new-zealand>

<sup>10</sup> Ibid



infringement notice.<sup>11</sup> Three people were notified to the Medical Officer of Health by general practitioners with illnesses suspected to be caused by the odour pollution. In 2024, the Environment Court refused the appeal from Remediation New Zealand Limited to renew the consent to continue composting at Uruti for a variety of reasons which included odours and health. Judge Newhook in his decision stated: *on all the evidence we doubt the ability of the site operator to manage odour in a way that can be relied on.*<sup>12</sup>

## Overall odour and health assessment

All composting operations produce odour because of the breakdown of organic materials. Paul Baynham in his odour assessment noted that some of the proposed composting feedstock such as animal carcasses was high risk for producing offensive odours.<sup>13</sup> Meteorological modelling showed an effective odour transport pathway that included a large part of the Kokatahi community.<sup>14</sup> Our survey revealed that a high proportion of people within this pathway were at-risk of adverse odour-related health effects and the area was defined as a high sensitivity receptor.

The combined Source-Pathway-Receptor factors add up to a substantial risk to the health and wellbeing of people in Kokatahi if the composting facility goes ahead.

## Recommendations

The proposed composting site is too close to where people live, provide accommodation, and go to school. Separation distances for composting facilities need to provide a basic level of environmental protection for surrounding areas and take into account impacts which arise from time to time from accidents, extreme weather and equipment failure.

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<sup>11</sup> Taranaki Regional Council. Remediation New Zealand Ltd Uruti composting facility Monitoring Programme Annual Report 2022-2023. Technical Report 2023-05. November 2023.

<sup>12</sup> Remediation (NZ) Limited v Taranaki Regional Council [2024] NZEnvC 213. <https://www.environmentcourt.govt.nz/assets/Documents/Publications/2024-NZEnvC-213-Remediation-NZ-Limited-v-Taranaki-Regional-Council.pdf>

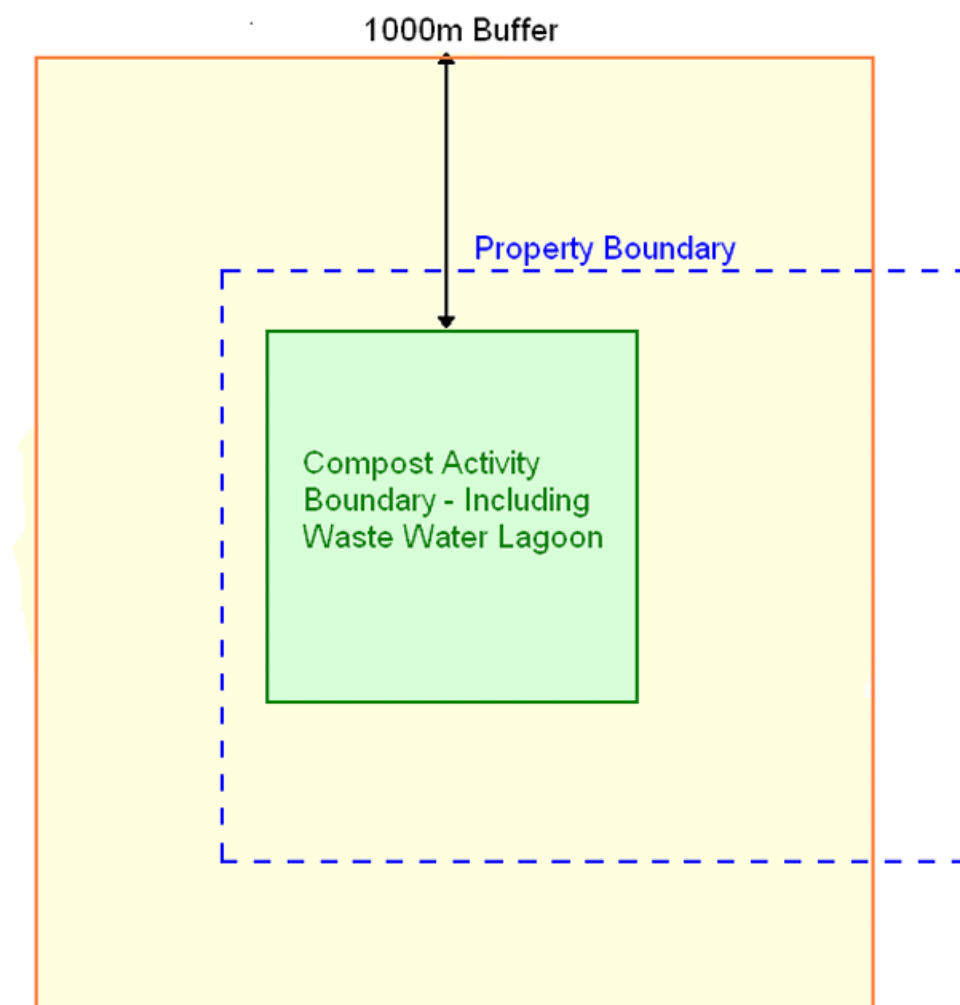
<sup>13</sup> Baynham P. Odour assessment report associated with von Ah Contracting Composting Proposal. Mote Limited. December 2024. <https://www.wcrc.govt.nz/services/consents-compliance/publicly-notified-consent-applications/limited-notified-consent-applications>

<sup>14</sup> Baynham P. Recommended odour notification zone associated with von Ah Contracting Composting Application. Mote Limited. May 2025. <https://www.wcrc.govt.nz/services/consents-compliance/publicly-notified-consent-applications/limited-notified-consent-applications>

**It is recommended that the proposed composting facility is located a minimum of 870 metres from the nearest residential property, accommodation provider, or school.**

Different jurisdictions suggest different approaches to the siting of compost works. For example, the South Australian Environment Protection Agency uses a minimum of 1,000 metres to land that is for sensitive use.<sup>15</sup>

**Diagram 3. Example of a 1,000-metre separation distance from the active compost<sup>16</sup>**



<sup>15</sup> Environmental Protection Agency South Australia. Compost guideline. June 2019.  
[https://www.epa.sa.gov.au/files/7687\\_guide\\_compost.pdf](https://www.epa.sa.gov.au/files/7687_guide_compost.pdf)

<sup>16</sup> Ibid.

**I would also strongly recommend that the Hearing Committee seeks technical advice from their local Public Health Service before awarding any consent to establish a composting facility.**

It should be noted that many public health units are now reluctant to make submissions to local authorities and regional councils.<sup>17</sup> However in some circumstances they can provide technical advice.

One issue to consider is that a composting facility with feedstock that includes wastewater sludge and animal carcasses may fit the definition of an Offensive Trade under Schedule 3 of the Health Act 1956. Offensive trades are activities that can generate statutory health nuisances. Offensive trades require written consent from the Local Authority and the Medical Officer of Health under section 54 of the Health Act 1956.

Also, it would be useful for the Hearing Committee to get public health technical advice on other public health concerns mentioned by people who were interviewed such as contamination of roof water supply and ground water, Legionnaires disease, and dust. This assessment only dealt with odour and health.

## **Limitations**

Perhaps the biggest limitation with this assessment is the uncertainty about the ability of the applicant to follow best practice and effectively manage odour. It is possible that a highly skilled and experienced operator following a comprehensive Odour Management Plan (that included community feedback) would minimise the effects of offsite odours. Even if this is the case it is likely that people in Kokatahi will at times experience unpleasant odours. Our survey found that a high proportion of households were sensitive to amenity values of the area and would be very intolerant of offensive odours. Amenity values are those natural or physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes.<sup>18</sup>

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<sup>17</sup> McConnell G. Doctors fear Govt instructions means they can't talk freely about public health issues. Stuff. 18 March 2025. <https://www.stuff.co.nz/politics/360619997/doctors-fear-govt-instruction-means-they-cant-talk-freely-about-public-health-issues>

<sup>18</sup> S 2. Resource Management Act 1991. <https://legislation.govt.nz/act/public/1991/0069/latest/DLM230272.html>

## **Acknowledgements**

I wish to thank Dr George Tripe for his invaluable assistance in writing this report.

## Appendix

### Survey of Kokatahi villagers affected by proposed composting facility.

- There is a proposal before the West Coast District Council (WCDC) to establish a commercial composting facility on the southeastern border of the village. A hearing expected February 2026.
- A report by Paul Baynham to WCRC identifies a 870 metre “at risk” area for odour from the composting site. (These details are available on the WCRC website under ‘Limited Notified Consent Application.’) This area includes the School, and all houses in Bowen Street and both sides of Acland Street.
- Dr Jonathan Jarman, a retired public health specialist has been approached to assess the effects of odour on the people in this area. His special interest is understanding the negative health effects of odour and dust drifting over people and their homes; see his article “More than just a bad smell: Odour pollution and health in Aotearoa, New Zealand.” is available on the internet. Public Health officials are not allowed to make submissions.
- Dr Jarman will do an assessment gratis, but he needs information about the people who will be effected.
  1. The number of people who are within the nuisance odour radius
  2. The number of homes
  3. The residents ages and gender
  4. How many spend most of their time continuously at home or the local primary school as opposed to those who travel out of the immediate area for work or secondary school
  5. The reasons why people live in Kokatahi
  6. How many have chronic illnesses that require taking medication
  7. Any comments on health or other matters would be helpful.
  8. What these people think of the proposed composting facility:  
1=very happy, 2=happy 3 =don’t really care 4=unhappy 5=very unhappy

This information will be anonymised and nobody will be identifiable, but can we have your address simply so that we know we have not missed anyone.

I am part of a Kokatahi group concerned about this application.

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