

**Before the Auckland Council (Hearing Panel)**

**UNDER:** the Resource Management Act 1991 (RMA)

**IN THE MATTER OF:** an application for regional resource consents for the Huia Replacement Water Treatment Plant Project, Woodlands Park Road, Waima.

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**EVIDENCE OF CLINTON HEATH JACK CRAW**

**In support of Save Our Kauri Trust, Titirangi Protection Group, The Royal Forest & Bird Protection Society of New Zealand, Waitakere Ranges Protection Society, The Tree Council and Titirangi Residents and Ratepayers Association Inc.**

**30 March 2021**

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**Introduction**

1. My full name is Clinton Heath Jack Craw.

**Scope of evidence**

1. This document should be read in conjunction with my evidence of 15 February 2020 and rebuttal evidence of 6 March to this Hearing Panel.
2. I have read the additional report provided by Kenneth Scarlett (2021), the new Kauri Dieback Management Plan 8/12/2020, and the Joint Witness Statement March 2021.
3. I was not able to attend the scheduled caucusing meeting as it clashed with a Northland Regional Council meeting and I was not offered any alternative dates.

**Summary of evidence**

1. The requested kauri dieback disease testing has been conducted on the site and surrounds. I accept the methodology and results in full. These results show that

the site and surrounds are heavily contaminated and that it cannot be assumed that any part of the site is free of the pathogen.

2. I agree with the views expressed in the Joint Witness Statement by Dr Waipara, David Havell, and Dr Murray Fea, that the risks of kauri dieback spread will be greater than the status quo and that the proposed activities contravene every principle of kauri dieback management. It is clear that due to the high degree of site contamination, the proposed activities will cause increased flow of oospores offsite. The proposed mitigation measures for stormwater are scientifically untested.
3. The issue of the proposed activities contravening Section 52 of the Biosecurity Act, as raised by Dr Fea, needs to be addressed. Section 52 states:

***52 Communication of pest or unwanted organism***

*No person shall knowingly communicate, cause to be communicated, release, or cause to be released, or otherwise spread any pest or unwanted organism except –*

- (a) in the course of and in accordance with a pest management plan; or*
- (b) as provided in an emergency regulation made under section 150; or*
- (c) for a scientific purpose carried out with the authority of the Minister; or*
- (d) as permitted either generally or specifically by a chief technical officer.*

Kauri dieback is a pest under Sec 7.5.1.2 of the Auckland Regional Pest Management Plan (RPMP). As a result of the site testing by Biosense, we now know that a great deal of the site soil is contaminated with kauri dieback. Therefore any subsequent soil movement offsite would be knowingly spreading the pest. This could only be legally permissible if one of the 4 conditions (a) to (d) were met.

- (a) The purpose of RPMP rule 7.5.1.2.2 is to regulate the movement of goods that may contain or harbour the pest or otherwise pose a risk of spreading the pest. This means that an exemption to the RPMP provisions will need to be granted by Auckland Council for any soil movement to legally occur. The conditions of the exemption would need to be met otherwise a breach of the Biosecurity Act would occur.
- (b) Would require the intervention of the Minister of Biosecurity and a declaration by the Governor General, and is appropriate only for national biosecurity emergencies, which this clearly is not.
- (c) Similarly would require the intervention of the Minister of Biosecurity, and is inappropriate for this scenario as no new scientific purpose is involved, i.e. this is an operational matter.
- (d) Would require the intervention of a Chief Technical Officer of MPI. This applies to Unwanted Organisms not included in Regional Pest Management Plans, i.e. would not apply to kauri dieback in the Auckland Region.

## The Kauri Dieback Management Plan (The Plan)

4. The proposed Plan states correctly that the disease “*spreads primarily through the movement of contaminated soil and water.*”  
“*human activity and disturbance is assumed to be a key vector of the disease.*”  
“*The oocyte is resistant to sterigene and other disinfectants.*”
5. No material is intended to be stockpiled. Therefore movement of material offsite will need to occur contiguous with earthworks and this machinery will need to be continuously decontaminated. This will be very difficult to achieve.
6. It is stated that there will be “*clear delineation and control of runoff between surface soil removal and bulk earthworks catchments*” How this can be achieved is not stated. I consider that, given the massive amounts of material involved, the slope, weather events, dust issues and inability to create internal decontamination sites, that delineation will be impossible to achieve.
7. Wash water from the washdown facility will be collected and contained on site until it can be sterilised or disposed to trade waste. There is no approved means of sterilising bulk contaminated water, and disposal to trade waste similarly offers no means of containing or killing oospores. The Plan needs to describe the fate of this water and clearly state the way in which “sterilisation” will be achieved.
8. The intended use of silt fencing makes the assumption that containment of silt will also contain the pathogen. However it has been well established, and in fact stated in the Plan, that runoff water will contain oospores because the pathogen is microscopic. This is probably the single most serious flaw in the Plan. All runoff from earthworks of all types is likely to contain significant amounts of the pathogen.
9. The Plan states “*Silt fencing will help prevent excavated soil spilling into areas outside the construction footprint.*” It does not state that silt fencing will prevent soil spill, merely that it will help to prevent spill. This gives no confidence that spill of soil will not occur. It does not state that silt fencing will prevent movement of water from the site. As stated above all contaminated water is likely to contain significant amounts of the pathogen.
10. No tree stumps will be removed. For diseased trees this means that the site will remain contaminated down to the bottom of peg roots, which could be 5 metres or more in depth. The assumption that removing 0.5m of topsoil and 0.5m subsoil will leave a clean site is therefore invalid. The reference to Bellgard et al (2013) is misleading as that bioassay included soil but not tree peg roots.

11. The statement "*All material imported to site must be either hardfill direct from a quarry (no recycled hardfill) or from a kauri-free catchment.*" makes the incorrect assumption that the pathogen cannot exist without kauri. It has been well documented in previous evidence presented to this Panel that the pathogen survives in a range of habitats without kauri. This is mentioned here to demonstrate the applicant's lack of expertise in, and understanding of, kauri dieback biology and consequently in managing risks associated with the pathogen.
12. Works will generally be undertaken in dry weather, to minimise soil adherence to machinery. This fails to understand that oospores will be present in dust. Dust particles will be impossible to contain and the spread of pathogen via dust will be inevitable.
13. Kanuka fascines and wood chip are intended to be laid to bund open workings in order to minimise water movement. It is not stated if any of this material will be subsequently moved and if so, where to. This material is highly likely to be contaminated with significant amounts of the pathogen, as will any and all material that comes into contact with the ground. The Plan needs to state what is to be done with this material.
14. The current estimate of soil to be removed is 22,000 m<sup>3</sup>. No project of anywhere near this scale has been attempted for a kauri dieback contaminated site. The massive amounts of contaminated material involved demands management approaches and techniques that have yet to be developed in New Zealand or indeed anywhere else. In addition this is a massive underestimate of volume of contaminated soil because the Plan fails to recognise that the contamination will be present in depths far below the topsoil.
15. During soil removal, external water flows will be directed away from the works areas. How this is to be done is not stipulated. If bunds are intended to be created this will involve wider soil disturbance of already contaminated land, beyond the works area. This risks exposing contaminated soil to "clean" water and contaminating it with the pathogen, so there will be little likelihood of any water being uncontaminated. Also it is not stated how this land will be restored after the works have been completed. It is recommended that the Plan include these details.
16. The Plan states that the surface water runoff will be sterilised but not how this would be done. The Plan states that this sterilised water will be discharged into the downstream channel/stream. No matter what method is used, this water would be chemically contaminated. This would clearly be in breach of RMA provisions and should not be approved.

17. The proposal that soil removal trucks should be covered and leakage reduced is highly likely to lead to the pathogen being distributed along the route to the approved disposal site. The protocol here should state that loads must be contained within liners that are sealed at all times.
18. The objective for bulk earthworks "*Ensure surface runoff from bulk earthworks catchments is discharged without cross contamination of runoff from the topsoil disposal catchment(s)*" cannot be achieved within the controls intended to be imposed in the Plan. It is also not especially relevant as both topsoil and subsoil will already be contaminated. This again demonstrates the applicant's lack of expertise and understanding of kauri dieback. Almost every particle of earth removed from this site is likely to be contaminated with the pathogen.

### **Roles and Responsibilities**

19. There is no provision for a kauri dieback specialist or biosecurity specialist at all in the Plan. This is a serious shortcoming, as the Plan already contains incorrect assumptions and lack of understanding of kauri dieback biology, and leaving disease management decisions to people unskilled and untrained in these matters is very likely to lead to mistakes and subsequent significant transmission of pathogen. To imagine that the Site Manager will have the knowledge, understanding and time to pay sufficient attention to the cleanliness and security of every vehicle, person and piece of equipment moving on and off the site (and/or between areas of the site) to eliminate risk of spreading the pathogen beyond the site is manifestly unrealistic

### **Communication**

20. Leaving all staff and contractor training in the hands of the Site Manager, who is him/herself likely not qualified to do this, is a significant weakness and is very likely to lead to ongoing mistakes and further disease spread.

### **Monitoring**

21. There is no provision for independent site and/or offsite monitoring. To have any credibility the Plan should provide for regular and random monitoring by qualified independent agency, reporting to Auckland Council. The Panel needs to impose a condition to stop works to address any disease spread issues where these arise. The Plan is negligent in this regard.

### **Plan Review**

22. The provision for Plan review is vague, as is the reference to best practice. The Plan needs to state which best practice it intends to follow.

## Evidence of Kenneth Scarlett

23. Mr Scarlett refers to biosecurity best practice (5.1 – 5.3, 5.4-5.7, 8.1-8.2) being adhered to, without describing what this best practice is. He also states “*the proposed protocols to be applied across the entire footprint are more robust than the standard kauri dieback management protocols*” and “*the implementation of suite wide protocols outside of the KCZs go beyond current best practice*” without any description or comparison of the proposed or standard protocols. No protocols exist for dealing with removing a very large amount of contaminated soil from a sloping site, containing movement of contaminated water and preventing downstream contamination, neither is there any protocol for dealing with this scale of contamination in any scenario. The protocol used at Waipoua Forest for a small amount of soil is not comparable as the risk there of downstream contamination was negligible to nil. The protocol developed for the Puhoi to Warkworth Highway (P2W) project was similarly not comparable as the entire site and footprint were tested for kauri dieback and found to be disease-free. That particular protocol also has much more stringent provisions than the Watercare project (eg no soil or vegetative material to be moved offsite) so Mr Scarlett’s statements regarding relative protocol robustness are incorrect and should be discounted.
24. The proposal to remove topsoil and leave contaminated subsoil cannot be considered to be part of any biosecurity best practice management.
25. Mr Scarlett claims that the proposed measures will not eliminate but merely “*reduce the likelihood of spreading kauri dieback, as recommended by biosecurity protocols*”. I ask, reduced from what other scenario? Given the proposed extreme level of site disturbance and soil mixing, and lack of any prior use of these proposed protocols, it is impossible to state that these protocols will result in any reduction in likelihood of disease spread. The likelihood of risk of moving the pathogen from this activity needs to be compared with the status quo, i.e. an undisturbed fully vegetated site. The risk of this activity spreading the pathogen beyond the site is extremely high and I would argue inevitable.
26. Mr Scarlett states “*we will continue to work with kauri dieback specialists to ensure developing science and best practice measures are incorporated. An example of such a measure that could be employed in the future is if top soil and vegetation material were to be retained onsite, an ecological engineering approach including a mulch and compost management plan could be designed, so long as it harnessed the benefits of high temperature compost and or kanuka flavonoids for Pa control throughout the sites*”. I recommend the Panel ask him to name the kauri dieback specialists the applicants have worked with to develop science and best practice and what this science and best practice is. I ask this because the suggestion to utilise high temperature composting is entirely novel and not published or peer-reviewed as far as I know. We need to know if these techniques will be incorporated into the

Management Plan. If they are, they need to be peer-reviewed and considered applicable to this site, and if not they can be discounted. The proposal to remove topsoil and vegetation suggests that there is no intention to utilise these unproven techniques.

27. Mr Scarlett also states “*during the vegetation clearance, the utilisation of brush fascines (bundles of sticks) and mulch will be used to increase the watershed density on the bare earth and allow for the likely increase in storm surface water due to the loss of canopy wetting*”. Unless this measure prevents stormwater runoff completely (this would seem an impossibility) then it will not prevent passage of oospores downhill and offsite. It might limit numbers fractionally but a new infestation requires only 1 oospore and there are up to 10,000 oospores present in a pinhead of soil. This technique is untested and speculative and cannot be relied upon as a kauri dieback control measure. I respectfully ask the Panel to either demand peer reviewed reports on the efficacy of this measure or discount it as mitigation.

28. Mr Scarlett also states (3.14) that the suggested techniques “*could be employed in future*” i.e. there is no guarantee that any of them will be utilised in the Management Plan.

## **Conclusions**

The Management Plan is deficient in many areas and requires rewriting otherwise the project will lead to serious contamination of the downstream catchment and land in the corridor between the site and approved disposal site.

In my view the risk of contamination of the downstream catchment and other sites from the activity proposed on the site is so high that the activity should not be consented, as it will constitute a breach of the Biosecurity Act to “knowingly communicate, cause to be communicated, release, or cause to be released, or otherwise spread any pest or unwanted organism”.