

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of a hearing for the Proposed Plan Change 3 –
Significant Natural Areas to the Rotorua Lakes
District Plan

**STATEMENT OF EVIDENCE OF KATHERINE MARY LUKETINA
For the Waikato Regional Council
DATED 07 FEBRUARY 2020**

INTRODUCTION

1. My name is Katherine Mary Luketina. I am a geothermal scientist with a BSc, Post Graduate Diploma in Science (with distinction) and a MSc (Hons) from the University of Auckland. My research topic for my PGDipSci and MSc was the hydrodynamics of geyser eruption. I also have a Post Graduate Diploma of Environment & Management (PGDipEnvMgt) from Waikato University.
2. I am a member of the New Zealand Geoscience Society, the New Zealand Geothermal Association (NZGA), an associate member of the International Geothermal Association and a member of its Western-Pacific Branch. From 1997 I have had a continuous role on the Board of Directors of the NZGA, either as a Director (four 3-year terms) or, between times, as Waikato Regional Council (WRC) liaison to the Board. I lecture at the New Zealand Geothermal Institute (University of Auckland) as an Outside Lecturer.
3. I have been employed for twenty-two years by WRC, for the first two and a half years as a resource consent officer specialising in geothermal matters, and since then as Geothermal Scientist within the Science Section. I am responsible for the Region's geothermal monitoring programmes, including ecological monitoring of flora, fauna and microorganisms. I provide scientific input on geothermal matters to the Council's policy makers and resource consent processors. My role brings me into day to day contact with the geothermal community, including geothermal scientists and engineers, ecologists, consultants, planners, small users, power station operators, tangata whenua, staff of other regional and district councils, and tourist operators.
4. I have authored or co-authored more than thirty technical reports and papers in national and international conference proceedings and transactions. In 2004 I ran two workshops on geothermal applications at the Resource Management Law Association conference in Taupo.
5. In 2005 I received a scholarship from the Ministry of Economic Development to attend the World Geothermal Congress in Turkey, where I presented two papers, one on geothermal policy and one on evaluating significance of geothermal features. In that year I also visited Iceland as the guest of two Icelandic government departments to advise them on geothermal resource

management practices and theory. In 2016 I visited Mexico to present at a geothermal conference and hold high-level bilateral discussions with senior government officials on behalf of the Ministry of Foreign Affairs and Trade. I have also been called upon to present to more than 40 delegations of foreign elected Government Members, and senior government officials and scientists, all seeking advice on the statutory management of geothermal resources.

6. I was a key staff member in the development of the geothermal sections of the Waikato Regional Policy Statement (WRPS) and Waikato Regional Plan, a process that took seven years through the council process, Environment Court, and High Court, culminating in a policy package that now has wide acceptance by geothermal stakeholders and which won an international Energy Globe Award in 2008.
7. I have been a presenter, co-author, paper reviewer and session chair for four overseas geothermal conferences. I co-presented an international short course on geothermal policy development as part of the 2015 World Geothermal Congress. The topics of my published literature include geothermal policy development, the benefits of geothermal uses to the regional economy, the use of high-resolution multi-spectral aerial photography in monitoring geothermal features and vegetation, analysis of geyser recordings, assessment of low-temperature geothermal resources, and long-term monitoring of geothermal features.

Scope of Evidence

8. My evidence will address the extent to which the mapping should be consistent with the WRPS criteria, the ecological significance of geothermal features and the pressures and trends.
9. WRC's assessment of the proposed plan and submission was based on the information contained in the WRC Technical Report 2015/07 – Geothermal Vegetation of the Waikato Region, 2014 – prepared by Wildlands Consultants Ltd.
10. I consider that Rotorua Lakes District Council's (RLDC) use of the background report – Assessment of 56 natural areas in the Rotorua District not already identified as SNA, amendments to 12 current SNA, and 12 new SNAs identified: updated September 2018 – prepared by Wildlands Consultants Ltd,

led to exclusion of areas that meet one or more of the WRPS criteria for determining significance of indigenous biodiversity.

11. The technical report concludes that all areas of geothermal vegetation assessed as being significant are worthy of formal protection and management to protect them from human disturbance and its associated threats. It also notes that some sites that have been assessed as locally significant or regionally significant may improve in condition over time if protected and could warrant a higher ranking in the future.
12. Ecological restoration of degraded geothermal sites and the enhancement of conservation values and viability of the areas depend largely on the implementation of land use controls and legal protection of the land. The 2014 report notes that the current management of some privately-owned sites is ecologically unsustainable.
13. Our submission requested the mapping and scheduling of the following high priority geothermal sites for restoration within the Waikato Region:
 - i. Waiotapu South, site 555. Summarised as submission point 34.06.
 - ii. Maungakakamea, site 716. Summarised as submission point 34.14.
 - iii. Orakeikorako (East side of Waikato River only), site 559. Summarised as submission point 34.15.
 - iv. Red Hills (East side of Waikato River only), site 566. Summarised as submission point 34.16.
 - v. Longview Rd, site 570. Summarised as submission point 34.17.
 - vi. Te Kopia, site 712. Summarised as submission point 34.19.
 - vii. Northern Paeroa Range, proposed new site 800. Summarised as submission point 34.25
14. Our submission also requested that conservation land containing geothermal ecosystems be included in the SNA maps at the following areas: Te Kopia Scenic Reserve, Waikite Valley Conservation Area, Maungaongaonga, Waiotapu North, Maungakakamea and Waiotapu South
15. Further maps were provided for these areas. Summarised as submission point 34.270.

16. The sites identified in WRC's submission are part of 64 areas identified in the 2014 report. These contain approximately 863 ha of geothermal habitat, which comprises close to 750 ha of geothermal terrestrial ecosystems (including nonvegetated raw-soilfield) and around 113 ha of geothermal water. Several Nationally 'Threatened' and 'At Risk' vascular plant species of geothermal habitats in the Waikato Region are found in these sites¹.
17. I wish to respectfully address recommendation 5.170 of the S42A officer's report. I consider that the entire site, including the stream length for SNA 558 is necessary to protect the integrity of the site, as WRC's main concerns is the protection and sustainable management of the geothermal stream and its dependent ecosystem. The 2014 technical report identifies the site as regionally significant without need for further field work. The study undertaken as part of the background report represents an appropriate degree of site validation. Also, the site meets one or more of the Waikato RPS criteria for determining significance of indigenous biodiversity.
18. The stream length is a special geothermal habitat because that is where plants that need a warm atmosphere will grow. This includes *Christella aff. dentata*, which is only found in 15 known sites in the across the country, all of these in the upper half of the North Island².
19. We note that the 2018 background report prepared for RLDC only maps the mouth part of the stream. However, it does not provide an explanation for the departure from the data available in WRC's technical report.

Conclusion

20. I respectfully request that the hearings panel accepts WRC's submission, based on the use of the more detailed information provided in the WRC Technical Report 2015/07 – geothermal vegetation of the Waikato region, 2014 – prepared by Wildlands Consultants Ltd.

¹ For details on site boundaries, condition and assessment of significance refer to appendix 1, WRC Technical Report 2015/07, pp. 64-385.

² Refer to site description for Akatārewa Stream, appendix 1, WRC Technical Report 2015/07, pp. 172-175.

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