



Te Kāhui Tika Tangata
Human Rights Commission

The Legacy of PCP and its Dioxins in Aotearoa:

An overview of human
rights concerns

**“If we can’t heal
Papatūānuku,
we can’t heal
ourselves.”**

– Joe Harawira,
Sawmill Workers Against Poison

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1. Introduction

This paper provides an overview of the human rights concerns related to the widespread use of pentachlorophenol and its associated dioxins (“PCP”)¹ in Aotearoa New Zealand’s timber industry between 1930 and 1988, and the ongoing consequences of this.² This paper does not seek to advance new research. Instead, it collates and summarises existing research to support a shared understanding of the issues and situates these within a human rights Te Tiriti o Waitangi framework.

PCP exposure has likely resulted in long-standing health issues for many timber workers, their whānau, local communities, and the environment. These harms may have compounded by inadequate worker protections, limited access to healthcare and compensation, and insufficient environmental remediation.³ Māori and their whenua are likely to have been disproportionately affected, given the proximity of contaminated sites to Māori land and high Māori participation in the timber industry workforce.⁴

Despite long-standing research and sustained community-led advocacy, there has been little corporate accountability and limited accessible government support.⁵

This history engages a range of human rights, including the right to health, the right to safe working conditions, the right to an effective remedy, and rights affirmed under the United Nations Declaration on the Rights of Indigenous Peoples (“UNDRIP”) and Te Tiriti o Waitangi (“Te Tiriti”).⁶ It also engages the State’s duty to protect against human rights abuses by business enterprises, including obligations to prevent, investigate, address, and redress harm.⁷

This paper first outlines the history of PCP use in Aotearoa New Zealand and its environmental and human health impacts. It then analyses the relevant human rights and Te Tiriti obligations and proposes a human rights-based framework for addressing the resulting harms.

“The impacts of PCP contamination are not limited to those directly exposed during its use. They carry intergenerational consequences, with risks for the health, well-being, and cultural identity of future generations who continue to live in proximity to contaminated sites.”

- Marama Harawira Cook, Co-chair of SWAP

2. History of PCP use and awareness in Aotearoa New Zealand

The post-World War II period saw a boon in new pesticides on the market, as chemical companies previously focused on warfare reorientated to agricultural purposes.⁸ PCP is a manufactured chemical pesticide which was used extensively for timber treatment, including as an anti-sapstain fungicide applied by spray or dip bath.⁹ It was used in New Zealand sawmills, with use peaking in the 1970s, enabling the widespread use of fast-growing pine in place of hardwoods. It is estimated that from around 1950, approximately 6,000 tonnes of PCP were imported and used at sites across the country until 1988.¹⁰

Just as the use of pesticides such as PCP was increasing, scientific understanding of their risks was also developing. These chemicals were discovered to pervade fatty tissues and accumulate in the food chain. In 1962, Rachel Carson's seminal **Silent Spring** was published, followed by a proliferation of scientific literature on chemical toxicity, including PCP.¹¹ Over the following decades, domestic regulation, business practice, and international law began to respond, albeit unevenly and at differing speeds.

In **1974**, the universal no-fault accident compensation scheme came into force in New Zealand.¹² The scheme was founded on principles of community responsibility, comprehensive entitlement, complete

rehabilitation, real compensation, and administrative efficiency.¹³ At its core was the recognition that the community benefits from productive workers and should share responsibility for supporting them when injury occurs. However, the scope and accessibility of the scheme would fluctuate over subsequent decades, particularly in relation to occupational disease.

In **1978**, Sweden was the first country to de-register PCP due to concerns about health risks to sawmill workers.¹⁴

In **1988**, alarmingly high concentrations of PCP were found in the Manukau harbour, and New Zealand timber companies voluntarily stopped PCP use that same year.¹⁵

In **1990**, a National Task Group was established to assess contamination at timber sites and identify appropriate responses.¹⁶ Its 1992 report, focused on the Waipa mill site,¹⁷ identified significant PCP concentration in soil near sites where use or disposal of timber waste had occurred, including at depth.

This suggested vertical migration and groundwater contamination may have occurred. Testing of the Waipa stream confirmed PCP contamination from such migration, with likely adverse effects on the uses of the stream, at levels which met the criteria for adverse effects on biota. PCP was also found to be present at elevated levels in fish, mussels, and sediments in Lake Rotorua. Whilst noting

that there was no clear picture on the impact on human health, the report recommended groundwater control and control of further contamination as high priorities.

In **1991**, the New Zealand government imposed an official total ban, and it was deregistered by the Pesticides Board.¹⁸ Public awareness of the legacy of PCP use increased during the early 1990s following the publication of Gordon Jackman's report *The Deadly Legacy*, alongside Greenpeace's "Turning the Toxic Tide" campaign, which involved a national tour highlighting sites of contamination.¹⁹ In **1993**, *New Scientist* published an article detailing the extent to which toxic waste had contaminated New Zealand's soil and water, challenging the country's 'clean green' image.²⁰

In **1996**, Sawmill Workers Against Poisons ("SWAP") was formed as an advocacy group for former Whakatāne sawmill workers. Studies show that these workers had some of the highest PCP exposure levels.²¹ Hohepa Joesph Harawira (Joe Harawira), a former Whakatāne sawmill worker who had worked directly with PCP including having responsibility for mixing chemicals, emerged as a key leader within SWAP.²² He suffered from gout, kidney and liver problems, type 2 diabetes, and a period of physical paralysis, and was denied ACC cover.²³ He went on to play a central role in campaigning for access to healthcare, recognition of harm, and environmental remediation grounded in both mātauranga Māori and western science.²⁴ SWAP has continued this advocacy for nearly three decades,

pursuing justice for the intergenerational consequences of PCP exposure through collective action rooted in tikanga Māori and wairua-led approaches to justice and healing.

In **1996**, the Hazardous Substances and New Organisms Act came into force, with the stated purpose of protecting the environment and the health and safety of people and communities from hazardous substances.²⁵ Internationally, the Rotterdam Convention (1998) and the Stockholm Convention on Persistent Organic Pollutants (2001) were adopted in recognition of the serious risks posed by persistent toxic chemicals.²⁶ New Zealand ratified both conventions in **2003** and **2004**, respectively, with PCP listed under each.²⁷

Throughout the 2000s, further research and advocacy continued. In **2004**, the government funded a Massey University study into the health impacts of PCP exposure on former timber workers.²⁸ In **2005**, SWAP, supported by Greenpeace, undertook "The People Poisoned Daily" tour, travelling from the Bay of Plenty to Parliament to draw attention to contaminated sites and affected communities.²⁹ That same year, a Bay of Plenty Regional Council study identified extensive contamination of the Kopeopeo Canal and its eels, linking this to historical sawmill discharges and recommending consumption limits.³⁰

Studies published in **2007** and **2009** confirmed significant associations between PCP exposure and a range of physical and neuropsychological health effects.³¹

During this period, researchers also began trialling fungal and soil-based bioremediation techniques, some of which were developed collaboratively with SWAP and grounded in tikanga-based approaches.³² This work led to the government-funded and award-winning remediation of the Kopeopeo Canal, one of the most heavily contaminated sites in the country.³³ However, it represents only a small fraction of the thousands of contaminated sites nationwide.³⁴

In **2008**, a Ministry for the Environment commissioned report identified 225 sawmill sites that had used PCP, including 35 relatively large users.³⁵ At the time of the study, 100 of the sites were zoned for commercial, industrial or residential use.³⁶ Despite this, the Ministry declined to publicly name suspected contaminated sites, citing privacy concerns.³⁷ Community advocates have since estimated that between 600 and 700 sawmills may have used PCP, raising concerns about under-identification, limited monitoring, and inadequate public disclosure of contamination risks.³⁸ Sites where contaminated wood waste and chemical waste were dumped also remained of concern, particularly given the land use that may have then occurred on them - such as residential developments with vegetable gardens, dairy farming, and other agricultural use.³⁹

In **2010**, the government established a support service providing former PCP-exposed workers with access to annual health checks.⁴⁰ However, access to broader treatment, rehabilitation, and compensation through ACC has remained

limited due to the restrictive approach taken to assessing claims involving chemical exposure, particularly where conditions are not listed in Schedule 2 of the Accident Compensation Act.⁴¹

More recently, a People's Inquiry (**2020–2021**) examined the effects of toxic chemicals and poisons on people, wildlife, and the environment, with SWAP making a submission on the impacts of PCP exposure.^{42,43} Although extensive evidence has been published, the Inquiry has yet to release its final report.⁴⁴

In **2021**, the International Labour Organization (“**ILO**”) undertook a global review of exposure to hazardous chemicals at work and resulting health impacts. Pesticides were identified as a top chemical exposure priority.

The report also noted that:⁴⁵

Only a limited number of chemical occupational exposures are considered, monitored and regulated in workplaces. Because of the lack of comprehensive information on chemical exposure of workers and respective outcomes such as death, cancer, etc., global burden of disease calculations are often missing or are severely underestimated.

In **2022**, the Ministry of Business Innovation and Employment (“MBIE”) proposed a review of schedule 2 of the Accident Compensation Act 2001, which had been last updated in 2008.⁴⁶ The 2001 Act represents the latest in the series of reforms to the original scheme, and has itself undergone several amendments. Access to cover and entitlements had become more legalistic since the scheme’s inception, with many viewing this as a departure from its foundational principles.⁴⁷ MBIE sought feedback on the proposed review framework from a range of experts in occupational health and workplace relations.⁴⁸ SWAP provided a submission in this consultation. MBIE agreed that:⁴⁹

ACC should uphold Te Tiriti o Waitangi principles. For the proposed Schedule 2 review specifically, it will be important for researchers to consider how occupational diseases in Aotearoa impact Māori and to understand where information gaps are, which could stimulate preventative action, awareness, and further research.

MBIE agrees that the assessment of injuries needs to start from a modern evidence-based approach towards complex chemical exposure, which is why we are proposing to include experts early in the process to review and recommend occupational diseases to include in Schedule 2.

In **September 2022**, the Minister for ACC sought cabinet approval for the review framework.⁵⁰ It was proposed that reviews of schedule 2 occur every five

years, that there is an open consultation process to allow suggested additions, and that independent researchers will then compile the evidence on the submitted occupational diseases for medical experts to analyse. The Minister suggested the reviews should improve understanding of how schedule 2 applies to different groups in Aotearoa and per ILO guidance apply a gender-sensitive lens.

Between **April and May 2023**, a public consultation occurred, following which a report was produced for MBIE by Allen + Clarke. The disease and exposure pairings to be considered in the report were to include those suggested by submitters, as well as the ILO List and Australia’s Deemed Diseases List. Allen + Clarke first undertook a triaging process “to ensure that only those exposure/disease pairings that could potentially meet the purpose of Schedule 2 were reviewed in detail by the independent Panel”. PCP was reviewed only in relation to causation of non-Hodgkin’s lymphoma. The Panel noted the “toxic effects” of PCP are listed under the section relating to pesticide in the ILO List” but considered there was “insufficient causal evidence” and recommended that it was not included on schedule 2.⁵¹ The Panel also noted that any exposure would be historical, that “pesticide” is a broad category, and that dioxins are the contaminants of interest with carcinogenic effects already covered so “it may be best considered on a case-by-case basis”. The Panel made similar findings in relation to pesticides.⁵²

Of the several hundred exposure/disease pairings originally in the scope of the review, the report recommended the addition of 14 items to schedule 2.

In **October 2024**, the Minister for ACC sought cabinet approval to launch a public consultation seeking feedback on the proposed additions to schedule 2, which proceeded.⁵³ This was considered important as changes to schedule 2 are made by way of Order in Council, meaning there will be no Select Committee process to allow for public scrutiny.⁵⁴ However, given the way that the review process was structured, with the Allen + Clarke report now at its core, submissions at this point were unlikely to achieve substantive changes.

In **June 2025**, the Minister for ACC recommended 12 additions to schedule 2 and sought Cabinet agreement to this.⁵⁵ Claims for occupational diseases outside of schedule 2 remain subject to the more onerous test in section 30 of the Act to obtain cover.

This history demonstrates that despite PCP being identified as a hazardous chemical to worker health as early as 1978, and strong community advocacy since the 1990s, government and industry responses have been minimal and ineffective. People affected by PCP exposure have fallen through the gaps in our systems for protecting their human rights.

3. Environmental impacts

PCP is environmentally persistent and has been listed under the Stockholm Convention on Persistent Organic Pollutants due to its long-lasting toxic effects once released into the environment.⁵⁶ It can contaminate air, soil, and water, and accumulate through the food chain by concentrating in the tissues of plants and animals.⁵⁷ The Environmental Risk Management Authority has noted the toxic effects on exposed biota:⁵⁸

PCP is of high acute toxicity to mammals. Developmental and reproductive effects and liver and kidney pathology were noted in animal studies. The compound is also very ecotoxic to aquatic organisms. The dioxins contained in PCP and its salts have shown carcinogenic effects in experimental animals and are also persistent in the environment at very low concentrations.

A Ministry for the Environment-commissioned report in 2008 identified that many timber mill sites were unpaved, facilitating contamination of soil and groundwater.⁵⁹ For example, significant levels of contamination were found in soils, groundwater and “receiving environment water, sediment and biota” from the Waipa site in the Bay of Plenty.⁶⁰ Limits on consuming fish caught in Lake Rotorua, 5km away from the site, were recommended.⁶¹ People who purchased soil from the timber mill site were warned not to eat vegetables grown in it.⁶²

A lack of consistent documentation and public disclosure has created ongoing uncertainty regarding the number, location, and condition of contaminated sites nationwide. This uncertainty raises concerns about unidentified exposure risks, particularly where land use has changed following mill closures. These concerns are particularly acute for whānau and communities who have lived continuously adjacent to contaminated sites. Daily interaction with whenua, waterways, kaimoana, and local ecosystems means contamination is not solely a historical issue, but an ongoing one with cumulative and intergenerational consequences.

Effective remediation must therefore be designed and implemented in ways that are culturally sensitive, ecologically sound, and protective of future generations.

4. Health impacts

PCP is highly toxic to humans, who may be exposed by way of inhalation, ingestion or skin contact.⁶³ During its period of use, many timber workers were exposed to PCP in the workplace, often without adequate personal protective equipment (“PPE”).⁶⁴ Workers report being permitted to work in clothing that quickly became saturated with PCP liquid, whilst observing that drivers delivering PCP powder wore comprehensive PPE.⁶⁵

Contaminated clothing was often worn home, creating pathways for secondary exposure for whānau, including during laundering. The practice of allowing workers to take home wood waste also meant exposure may have occurred through domestic fires using off-cuts, or vegetable gardens mulched with sawdust.⁶⁶

The nature of the health impacts arising from PCP exposure does not always lend itself to a clear cause-and-effect relationship with a single identifiable condition, in the way that other occupational substances may, such as asbestos and asbestosis or silica and silicosis. The toxicity effect may be influenced by the grade of PCP and the contaminants in it.⁶⁷ However, as outlined below, a body of research demonstrates consistent associations between PCP exposure and adverse health outcomes.

The World Health Organization notes that once dioxins enter the body, they persist for long periods due to their chemical stability and ability to accumulate in fat tissue, with an estimated half-life of between seven and eleven years. In the environment, dioxins can accumulate through the food chain, resulting in progressively higher concentrations at each level.⁶⁸

The 2007 Massey University study on former New Zealand timber workers exposed to PCP identified statistically significant associations between exposure levels and a wide range of health effects.⁶⁹ Reported health impacts spanned respiratory, dermatological, endocrine, cardiovascular, gastrointestinal, neurological, and psychological domains, with evidence of dose-response relationships.⁷⁰ The study also identified a statistically significant trend for frequent mood changes without apparent cause.⁷¹

A subsequent 2009 study found strong associations between PCP exposure and risks of self-reported tuberculosis, pleurisy, or pneumonia; significant association between the years worked in the industry and self-reported thyroid disorders and neuropsychological symptoms, low libido, heart palpitations; and highly statistically significant dose-response trend for frequent mood change without cause.⁷²

Research has also identified reproductive and developmental impacts associated with PCP exposure.⁷³ People exposed in Aotearoa have reported elevated rates of miscarriage and infertility within affected whānau.⁷⁴ International studies support these observations, identifying associations between high paternal blood PCP levels and increased foetal and neonatal mortality, miscarriage, and infantile cataracts.⁷⁵

The World Health Organization has also noted that dioxins are highly toxic and can cause reproductive and developmental problems, as well as damage to the immune system and interference with hormones. Strong evidence in animal studies also suggests humans will experience hepatic (liver) effects from PCP exposure.⁷⁶

PCP exposure has further been associated with increased cancer risk.⁷⁷ The International Agency for Research on Cancer has classified PCP as carcinogenic to humans. In its global review, the International Labour Organization observed that cancer is the leading cause of work-related death, and that occupational chemical exposures can affect multiple body systems, including the reproductive, respiratory, immune, cardiovascular, and nervous systems.⁷⁸

In Aotearoa New Zealand, personal injury resulting from work-related chemical exposure falls within the ambit of the accident compensation scheme. Although the Accident Compensation Corporation (ACC) toxicology panel has acknowledged that high levels of PCP exposure can cause cellular toxicity and act as a

promoter of cancer generally, ACC may not accept a causal link in a particular case.⁷⁹ ACC has routinely declined claims for cover for conditions related to PCP exposure.⁸⁰ Such claims involve the application of medico-legal tests consisting of complex criteria to establish causation, particularly given PCP is not included in schedule 2 of the Accident Compensation Act. Claimants then face significant hurdles to challenge these decisions, and may not be able to marshal the evidence required to prove their case to the requisite standard of proof. As a result, many affected workers have been unable to access treatment, rehabilitation and compensation available to others injured at work.⁸¹

5. Human Rights and Te Tiriti o Waitangi Obligations

The Special Rapporteur on toxins and human rights has emphasised that exposure to harmful substances without prior informed consent is a human rights issue – but one for which solutions exist.⁸² The history and impacts of PCP use therefore raise serious questions about whether the Crown has met its obligations under Te Tiriti o Waitangi and international human rights commitments. The issues engage a range of overlapping and interdependent human rights obligations, which are closely connected to environmental protection, workplace safety, health, and access to effective remedies.

Te Tiriti o Waitangi

Te Tiriti is New Zealand's founding constitutional document, signed in 1840 as a multilateral treaty between the British Crown and over 500 Rangatira Māori representing numerous hapū. It established treaty relationships across the many rohe of Aotearoa. Articles One and Two affirm the pre-existing and ongoing authority of hapū to exercise tino rangatiratanga, while permitting the Crown to govern its citizens in Aotearoa. These rights and corresponding obligations are further affirmed by international human rights standards, including the Universal Declaration of Human Rights,⁸³ the International Bill of Rights,⁸⁴ and other UN instruments.⁸⁵

The UN Declaration on the Rights of Indigenous Peoples most comprehensively elaborates the application of these rights in the context of Indigenous peoples, and specifically affirms their right to have treaties with States honoured.⁸⁶

- **Article 1** includes the rights of hapū to be part of decision-making. Despite the likely disproportionate effects on Māori communities and whenua, and strong advocacy from Māori led SWAP, there has been limited evidence of meaningful partnership or shared decision-making by the Crown in addressing the legacy of PCP use.
- **Article 2** includes the rights of hapū to active protection of taonga, including whenua, wai, and mahinga kai.⁸⁷ Damage to taonga resulting from PCP use, together with limited and delayed remediation, raises questions about whether the Crown has fulfilled its duty of active protection. Where damage has already occurred, active protection requires ensuring that remediation strategies are developed and implemented in partnership with hapū and iwi, embedding mātauranga Māori, tikanga, and intergenerational perspectives so that taonga are restored in a way that sustains their mauri for future generations.

- **Article 3** provides for the equity of all New Zealanders. The likely disproportionate impacts of PCP exposure on Māori, coupled with limited recognition and redress, raise concerns about substantive equity and equality of outcomes.

International Human Rights Standards

International human rights law imposes obligations on the State to respect, protect, and fulfil a range of rights implicated by the legacy of PCP use.

- The **right to life**, protected by article 6 of the International Covenant on Civil and Political Rights and section 8 of the New Zealand Bill of Rights Act, may be engaged where environmental and occupational hazards contribute to shortened life expectancy or prevent individuals from living lives of dignity. This right imposes positive obligations on States to take reasonable measures to prevent threats to life, including those arising from the activities of private actors.⁸⁸
- The **right to the highest attainable standard of health**, set out in article 12 of the International Covenant on Economic, Social and Cultural Rights, requires States to protect people from exposure to harmful substances, adequately regulate hazardous chemicals, and ensure access to appropriate healthcare and remedies for those affected. This includes obligations to prevent foreseeable harm, monitor exposure, remediate contaminated environments, and provide accessible healthcare to affected individuals and communities, including future generations.
- The **right to safe and healthy working conditions**, protected by article 7 of the International Covenant on Economic, Social and Cultural Rights, requires States to ensure effective regulation, training, monitoring, and enforcement to protect workers from exposure to hazardous substances. The widespread exposure of timber workers to PCP without adequate protection raises questions about the adequacy of historical workplace safety frameworks.
- The **right to an effective remedy**, articulated in article 8 of the Universal Declaration of Human Rights, requires that individuals have access to timely and effective means of redress where their rights have been violated. Effective remedies may include medical treatment, compensation, environmental remediation, and guarantees of non-repetition. Barriers to accessing ACC entitlements for PCP-related harm directly engage this right.
- The **United Nations Declaration on the Rights of Indigenous Peoples** sets out the minimum standards for the survival, dignity, and well-being of Indigenous Peoples. It includes the right to conservation and protection of the environment (article 29), rights to health, social well-being, and environmental

protection (articles 21, 23, and 24), and access to financial and technical assistance for redress (article 39). These provisions are directly relevant where Indigenous communities experience disproportionate environmental contamination and health impacts caused by industrial activity.

- The **right to a healthy environment**, recognised by the UN General Assembly and supported by New Zealand,⁸⁹ is closely connected to the other rights engaged by PCP contamination. This right encompasses both substantive elements - such as clean air, safe water, non-toxic environments, and healthy ecosystems - and procedural elements, including access to information, public participation in decision-making, and access to justice and effective remedies.⁹⁰
- The **United Nations Guiding Principles on Business and Human Rights** provide the internationally accepted framework for addressing the human rights impacts of business activity. They rest on three pillars: the State duty to protect human rights, the responsibility of businesses to respect human rights, and access to effective remedy for those affected by business-related harm. The legacy of PCP use raises concerns across all three pillars, particularly in relation to regulatory failure, limited corporate accountability, and barriers to redress.
- **ILO Convention 42** provides that compensation must be paid to workers affected by occupational disease including by way of poisoning.⁹¹
- **ILO Convention 170** recognises that it is essential to prevent or reduce the incidence of chemically induced illness and injury in the workplace, in order for workers to enjoy the right to the highest attainable standard of health and enhance the protection of the general public and environment.⁹²

6. A Human Rights Framework for Redress

An effective way for New Zealand to address the harms caused by the legacy of PCP use is to adopt a human rights-based approach.⁹³ This approach requires focusing on solutions which allow affected people to live a life of dignity moving forward and which ensure public safety. Responses should be guided by core human rights principles, including participation, accountability, non-discrimination, transparency, and a focus on substantive outcomes for those affected. Partnering with iwi, hapū, and affected communities must be central to decision-making, recognising the intergenerational nature of the harms and the Crown's obligations under Te Tiriti o Waitangi.

Below are several interrelated and non-exhaustive measures which could form part of such an approach. They are intended to support dialogue and foster meaningful action, rather than prescribe a single remedial pathway.

a. National Inquiry into PCP Contamination

Right to an effective remedy, access to justice, right to participation, Te Tiriti Article 1

- Establish a formal national inquiry into historical and ongoing regulatory failures and human rights impacts arising from the use of PCP across Aotearoa New Zealand's timber industry, drawing on the most up-to-date scientific evidence as well as the

knowledge of affected communities.

- Ensure active, resourced, and culturally appropriate participation by Māori, affected workers, and their communities, including by drawing on prior research, testimony, and advocacy produced by those communities to minimise retraumatisation and consultation fatigue.
- The inquiry should adopt an explicitly human rights-based framework, identifying failures across regulatory systems, corporate accountability, access to remedies, and Te Tiriti obligations, and making clear, actionable recommendations for redress and non-repetition.

b. Support and Provide Compensation for Affected Workers and Whānau

Right to health, safe working conditions, social security, effective remedy

- Provide access to specialist medical care and culturally competent services for people who have experienced PCP exposure including - where appropriate - whānau and community members affected by secondary or intergenerational exposure.
- Establish a system for fair and adequate compensation for physical, psychological, and economic harm associated with PCP exposure, either by addressing existing barriers within

the ACC scheme or through the creation of a sui generis compensation mechanism tailored to the distinctive features of chemical exposure and long-latency occupational disease.

- This form of redress should be prioritised, given the advanced age of many workers who were exposed to PCP and the risk that further delay will render remedies ineffective in practice.

c. Environmental Risk Assessments and Site Testing

Right to health, right to a healthy environment, UNDRIP Art. 29

- Undertake comprehensive nationwide assessments of known and suspected PCP contaminated sites to inform prioritisation of remediation efforts and identify ongoing exposure risks associated with current land and water use.
- Ensure that assessments explicitly consider cumulative, long term, and intergenerational risks, as well as the lived realities of neighbouring communities whose ongoing relationships with whenua, wai, and kai continue to create exposure pathways.
- Prioritise proactive public disclosure of information generated through assessment and monitoring processes, enabling individuals, whānau, and communities to make informed decisions about land use, health, and cultural practices.
- Facilitate cooperation from corporate actors in line with responsibilities under the United Nations Guiding

Principles on Business and Human Rights.

d. National Remediation Fund

Right to effective remedy, UNDRIP Art. 28

- Work with central and local government, iwi, business, and other relevant actors to establish a well-resourced national remediation program, prioritising health and ecological safety.
- Remediation programmes should integrate mātauranga Māori and ecological science, ensuring that clean-up efforts do not merely reduce toxic risk but actively restore the cultural, spiritual, and ecological integrity of affected whenua and waterways for future generations.⁹⁴

e. Regulatory Reform and Corporate Accountability

Business and human rights obligations, public participation

- Review existing regulatory and policy frameworks to ensure they are capable of ensuring business accountability for damage to human and environmental health caused by chemical use - including through improved systems for accountability, enforcement, and long-term monitoring.
- Strengthen and adequately resource environmental oversight bodies, including regional councils, to ensure that enforcement mechanisms are effective and accessible, and that communities have meaningful avenues to raise concerns and seek redress.

7. Conclusion

This paper has shown that the historical use of PCP within Aotearoa New Zealand's timber industry engaged, and continues to engage, a range of fundamental human rights. The persistence of PCP and its long-lasting toxic effects mean that exposure has generated ongoing and intergenerational harms for workers, their whānau, affected communities, and the environment.

Despite decades of scientific evidence and sustained community advocacy, many of those affected have been unable to obtain meaningful recognition, support, or redress.

This reflects enduring gaps and limitations within regulatory, health, compensation, and remediation frameworks, and raises serious concerns about compliance with Te Tiriti o Waitangi and international human rights obligations.

As this analysis has demonstrated, a human rights-based approach provides a principled and coherent framework for confronting these failures, by centring the experiences of affected individuals and communities, clarifying State duties, and identifying pathways to accountability, remediation, and effective remedy.

“Ultimately, addressing the legacy of PCP is not only about justice for past and current workers, whānau, and communities, but also about safeguarding the health, dignity, and cultural identity of future generations. True remediation must go beyond technical solutions to embrace approaches that are culturally grounded, ecologically sustainable, and intergenerationally just.”

- Kereama Akuhata, Co-chair of SWAP

Endnotes

1. This paper will use “**PCP**” to refer to **PCP and its associated dioxins**. Technical-grade PCP often contained dioxins, heightening its toxic potential. “Impure or technical grade PCP, the form usually found at waste sites, contains toxic impurities such as polychlorinated dibenzo-p-dioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs). Collectively referred to as dioxins PCDDs and PCDFs are classified as Persistent Organic Pollutants”. See [SWAP Submissions to The People’s Inquiry 2020 Te Uiuunga a Nga Tangata](#) at p 4.
2. Melissa Moxon “[Timber mills leave legacy of poison](#)” NZ Herald (online ed, Auckland, 30 June 2000).
3. Tonkin & Taylor Ltd and SPHERE Assessment of Dioxin Contamination at Sawmill Sites: A Report to the Ministry for the Environment (October 2008) at p 30.
4. According to interviews with the Whakatāne community there are 36 affected sites in their district and “the majority of these sites are on or around marae and on Māori land.” See SWAP [Submissions to The People’s Inquiry 2020 Te Uiuunga a Nga Tangata](#). One site had 85% Māori workers: NZPA “[Research vindicates sawmill workers’ advocates - MP](#)” NZ Herald (online ed, Auckland, 1 May 2008).
5. See section 2 below setting out the history of PCP use and responses in New Zealand. In assembling this paper, the Commission has met with the Sawmill Workers Against Poisons (“**SWAP**”) and others with specialist knowledge – in order to hear their concerns, understand the background and develop a deeper understanding of the related issues.
6. See a summary of major relevant human rights instruments in section 5 (below).
7. UN Office of the High Commissioner for Human Rights (OHCHR) [The Guiding Principles on Business and Human Rights: Implementing the United Nations ‘Protect, Respect and Remedy’ Framework](#) (New York and Geneva, 2011). Proposed and drafted by the UN Special Representative on business and human rights [John Ruggie](#) during his 2005-2011 mandate, and endorsed by the UN Human Rights Council in June 2011. In the same resolution, the UN Human Rights Council established the [UN Working Group on business and human rights](#).
8. Pete Daniel [Toxic Drift: Pesticides and Health in the Post-World War II South](#) (Baton Rouge: Louisiana State University Press, 2005).

9. Ruth Dyson [Research into timber workers' exposure to PCP](#) (7 September 2004); Tonkin & Taylor Ltd and SPHERE [Assessment of Dioxin Contamination at Sawmill Sites: A Report to the Ministry for the Environment](#) (October 2008).
10. Tonkin & Taylor, *ibid*, at p15 - 16.
11. NRDC [The Story of Silent Spring](#) (13 August 2025); Choudhury H, Coleman J, De Rosa CT, Stara JF. "[Pentachlorophenol: Health and Environmental Effects Profile](#)" (1986) 2 Toxicology and Industrial Health 483.
12. [Accident Compensation Act 1972](#).
13. Woodhouse, Hon Mr Justice [Compensation for Personal Injury in New Zealand](#) [1967] NZRoyalC 1 (13 December 1967).
14. Bernhard Kreber "[An examination of medical and legal issues in the struggle of New Zealand sawmill workers and ACC cover for PCP poisoning](#)" (2007) 15 Waikato Law Review 95.
15. Melissa Moxon "[Timber mills leave legacy of poison](#)" NZ Herald (online ed, Auckland, 30 June 2000); Bernhard Kreber "[An examination of medical and legal issues in the struggle of New Zealand sawmill workers and ACC cover for PCP poisoning](#)" (2007) 15 Waikato Law Review 95.
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78. International Labour Organisation [Exposure to hazardous chemicals at work and resulting health impacts: A global review](#) (7 May 2021).
 79. See [Ryan v ACC \[2018\] NZACC 105](#).
 80. Bernhard Kreber “[An examination of medical and legal issues in the struggle of New Zealand sawmill workers and ACC cover for PCP poisoning](#)” (2007) 15 Waikato Law Review 95 at 109.
 81. Pursuing compensation for personal injury outside of the ACC scheme is extremely challenging due to the statutory bar in section 317.
 82. United Nations Human Rights Council “[Special Rapporteur on toxics and human rights](#)”.
 83. Adopted by the United Nations General Assembly on 10 December 1948 (A/Res/217(III)).
 84. Which refers to the International Covenant on Civil and Political Rights and the International Covenant on Economic, Social and Cultural Rights, both ratified by New Zealand on 28 December 1978.
 85. Including the [United Nations Declaration on the Rights of Indigenous Peoples](#) A/RES/61/295 (2007), the [Convention on the Elimination of All Forms of Racial Discrimination](#) GA Res 2106 (XX) (1965) (ratified by New Zealand on 22 November 1972), the [Convention on the Elimination of All Forms of Discrimination Against Women](#) GA Res 34/180 (1979) (ratified by New Zealand on 10 January 1985), the [Convention against Torture](#) GA Res 39/46 (1984) (ratified by New Zealand on 10 December 1989), the [Convention on the Rights of the Child](#) GA Res 44/25 (1989) (ratified by New Zealand on 56 April 1993), and the [Convention on the Rights of Persons with Disabilities](#) A/RES/61/106 (2006) (ratified by New Zealand on 25 September 2008).
 86. [United Nations Declaration on the Rights of Indigenous Peoples](#) A/RES/61/295 (2007), art 37.
 87. Te Kāhui Tika Tangata New Zealand Human Rights Commission “[Human Rights and Te Tiriti o Waitangi](#)”.
 88. [UNHRC General Comment No 36 - Article 6: Right to life](#) UN Doc CCPR/C/GC/36 (2019) at 21 (citations omitted).
 89. United Nations Human Rights Council (UNHRC) [The human right to a clean, healthy and sustainable environment](#) UN Doc A/HRC/RES/48/13 (2021) at 1; United Nations General Assembly (UNGA) The human right to a clean, healthy and sustainable environment UN Doc A/RES/76/300 (2022) at 1.

90. United Nations Development Programme “[Information Note: What is the Right to a Healthy Environment?](#)” (2023) at 9.
91. International Labour Organisation “[C042 - Workmen’s Compensation \(Occupational Diseases\) Convention \(Revised\), 1934 \(No. 42\)](#)”, [ratified](#) by New Zealand.
92. International Labour Organisation “[All you need to know ILO CHEMICALS CONVENTION No. 170 & ITS RECOMMENDATION No. 177](#)” (6 December 2019), [not ratified](#) by New Zealand.
93. See, for example: Australian Human Rights Commission “[Human rights based approaches](#)” (18 June 2013).
94. See, for example, the Massey University bioremediation initiatives undertaken in collaboration with community including SWAP, referred to above.



Te Kāhui Tika Tangata
Human Rights Commission