Key facts about Kauri and *Phytophthora agathidicida* (PA)

Kauri (*Agathis australis*) are a taonga (treasure) of Aotearoa New Zealand and are under threat by *Phytophthora agathidicida* (PA), a soil-borne pathogen. The PA pathogen infects Kauri trees through their roots and restricts the ability of the plant to transport water and nutrients between the roots and the leaves. This causes the condition known as kauri dieback disease, which eventually starves and kills the Kauri.

The science on PA is clear; this pathogen poses a serious threat to Kauri.

Our scientific understanding of its impacts and how it spreads has advanced significantly since the pathogen was first found on Aotea in 1972 and its broader impacts were recognised more widely in 2006.[1,2]

The survival of Kauri depends on all of us taking action to stop the PA pathogen from spreading.

Kauri are an ecologically important species in the forests in which they naturally occur.[3,4]

Kauri have fine and delicate roots that grow at and near the soil surface.[5]

The PA pathogen causes the disease known as kauri dieback.[2,6,7]

PA infects Kauri roots, resulting in root decay, resin bleeds on the trunk, canopy thinning, branch loss and eventually tree death.[8]

Kauri is the main host of PA in New Zealand.[9]

PA has been introduced to New Zealand,[6,10] and it is not present across all of Kauri lands; there are significant stands of Kauri not yet infested by the pathogen.[11,12]

PA is a soilborne pathogen[6]; moving soil containing PA near to Kauri roots poses a risk of new infections[2]. This is why material from sites known to be positive for PA must be handled in accordance with section 52 of the Biosecurity Act. Anyone or anything that moves soil containing PA can spread the disease, including humans and animals.[2,13]

Climatic changes will continue to put pressure on Kauri health, especially among trees with damaged root systems from disturbance or infection.[14–18]

Eradicating any established soil-borne Phytophthora species in a forest is not possible,[15] and there is currently no cure for Kauri trees infected with PA. However, an integrated management strategy can effectively minimise the spread and impacts of PA.[2]

Protecting Kauri root systems is critical to the long-term health of these iconic trees. Tracks and accessways near Kauri are designed and maintained to ensure people stay on dry, stable surfaces to reduce soil disturbance and prevent the spread of PA via soil.[17]

These 10 foundational facts, with supporting literature are endorsed by the following leading researchers in Kauri protection in Aotearoa New Zealand:

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This factsheet was prepared by the technical advisors in the Plant Pathogen Teams at Auckland Council and the Department of Conservation in partnership with Tiakina Kauri and researchers at the Bioeconomy Science Institute.

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