

Successful containment and eradication of *Phytophthora cinnamomi* at a management level from diverse natural ecosystems in Western Australia

Chris Dunne¹, Renee Hartley, William Dunstan², Peter Scott², Trudy Paap², [Giles Hardy²](mailto:g.hardy@murdoch.edu.au)

¹Science Division, Department of Environment and Conservation, Locked Bag 104, Bentley Delivery Centre, WA 6983, Australia; ²Centre for Phytophthora Science and Management, School of Biological Sciences and Biotechnology, Murdoch University, Perth, WA, Australia. E-mail: g.hardy@murdoch.edu.au

Here we demonstrate that management scale containment and eradication can be achieved for *Phytophthora* dieback infestations in three different native plant communities in Western Australia. The communities include: (1) a Kwongan vegetation type on a soil varying from sandy to exposed rocky subsurface to a clay above a rock subsurface, (2) a Proteaceous heathland on a deep sand profile, and (3) a Kwongan Banksia woodland on a deep sand over a sandy loam-clay. All of these communities are highly impacted by *P. cinnamomi* resulting in substantial loss of biodiversity assets. The successful approach taken involved the following tasks: risk assessment of the project goals and proposed techniques, implementation of hygiene plans, extensive and intensive soil and plant sampling and *in situ* baiting to accurately map the occurrence of the pathogen, detailed hydrological characterisation using remote sensing techniques, 2D hydraulic modelling, development of hydrological engineering options, catchment modelling, installation of fences to reduce animal vectoring, herbicide applications to remove living host support for the pathogen, phosphite foliar sprays, fumigation with metham sodium and on-going monitoring of the sites to demonstrate the success of the approach taken. Prevention of further spread through these high priority natural ecosystems is now of high priority. This project has involved partnerships between government and non-government agencies, industry, researchers and community groups. These partnerships have included the construction of hygiene infrastructure around priority National Parks and the engagement of key stakeholders in the management of Phytophthora Dieback. The approach described has huge potential for the eradication and containment of other soil-borne *Phytophthora* species around the world.

Dunstan WA, Rudman T, Shearer BL, Moore NA, Paap T, Calver MC, Dell B, Hardy GESJ Containment and spot eradication of a highly destructive, invasive plant pathogen (*Phytophthora cinnamomi*) in natural ecosystems. *Biological Invasions*, **12** 913-925 (2010).



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