



SUBMISSION

Senate Enquiry into Non-Conforming Building Products

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University of Adelaide

Professor Andrew Lowe & Doctor Eleanor Dormontt

Based at the University of Adelaide, Prof. Lowe and Dr. Dormontt are world experts in timber identification, specialising in the use of DNA technologies to determine species, provenance and individualisation of tree species.

Prof. Lowe is Chair of Plant Conservation Biology and Director of Food Innovation at the University of Adelaide. Prof. Lowe has led a number of national and regional research programs, including the Terrestrial Ecosystem Research Network (TERN) for which he served as Associate Science Director. His research aims to develop and apply ecological and genomic analyses, to understand, monitor and better manage biodiversity. Prof Lowe has experience commercializing research, and is Chief Scientific Officer of Double Helix Tracking Technologies, a Bio-knowledge start-up headquartered in Singapore that uses DNA tools to eliminate illegally logged timber from global supply chains.

Dr. Dormontt is a Research Fellow with the School of Biological Sciences and leads the timber tracking research group who focus on developing cutting edge genomic approaches to the development and application of DNA analysis to timber identification. Dr Dormontt also works for the United Nations Office on Drugs and Crime as a consultant, leading the development of their newly published "Best Practice Guide to Forensic Timber Identification" and working with CITES to promote adoption of improved practices to stimulate the development of new timber identification methods and tools.

Terms of Reference to be addressed

- c. possible improvements to the current regulatory frameworks for ensuring that building products conform to Australian standards, with particular reference to the effectiveness of:
 - i. policing and enforcement of existing regulations,
 - ii. independent verification and assessment systems,
 - iii. surveillance and screening of imported building products, and

Comments

With specific reference to building products that are derived from timber, the structural properties of materials are almost always related to the species of wood that is used. Different species have different desirable characteristics such as durability, fire resistance etc. When a timber product does not conform to the required standards, it is usually because an inappropriate species has been used.

- **We recommend species testing for timber products as an appropriate method for determining compliance**
- **DNA identification can be used for enforcement, independent verification and screening purposes**
- **The Advanced DNA Identification and Forensic Facility (ADIFF) is a national facility with a specialised laboratory at the University of Adelaide which can provide DNA identification testing for timber species**

The Advanced DNA Identification and Forensic Facility (ADIFF) at the University of Adelaide is currently the only laboratory in Australia working on DNA timber identification and there are only a handful of laboratories worldwide with these capabilities. ADIFF is a national facility supported by the

Australian Research Council's Linkage Infrastructure, Equipment and Facilities scheme, the laboratory at the University of Adelaide is ideally suited to providing genetic timber identification services. The facility has complementary nodes working on Forests and Environments (University of Adelaide), Wildlife (the Australian Museum) and Humans (Flinders University). The facility brings together Australia's best and brightest researchers and service providers in the areas of DNA identification and forensics, and is also supported by The Australia New Zealand Policing Advisory Agency (ANZPAA), The Department of Environment, Water and Natural Resources (DEWNR), The South Australian Museum (SAM), The Australian Genome Research Facility (AGRF) and Double Helix Tracking Technologies (DX).

ADIFF currently provides identification services for, and collaborates on research projects with, a wide range of government, industry and NGO partners. Our work at the University of Adelaide focuses on the use of DNA to identify the trade groups, species, region of origin and even individual trees from which timber is derived. For some species, genetic resources have not yet been developed, and where this translates to an industry need for accurate DNA identification, we work with stakeholders to develop research programmes and commercial services that can deliver the required testing capabilities. Our work is published in the peer reviewed scientific literature and has been used to support criminal convictions.

DNA identification of timber is an area of emerging strength at The University of Adelaide, with several major grants including from The German Government, The International Tropical Timber Organisation (ITTO), The Australian Centre for International Agricultural Research (ACIAR), and the Australian Research Council. We also provide routine identification services for Double Helix Tracking Technologies in Singapore and have previously assisted the US Forest Service to identify timber theft from National Parks.

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