

Revisiting Kahikatea Forest Remnants in the Waikato Region

Dr Yanbin Deng¹, Mr Daniel Tait¹, Ms Manawa Huirama¹, Dr Catherine Beard², Ms Baylee Kelepamu³

¹Waikato Regional Council, ²Department of Conservation, ³University of Waikato

It is estimated that around 201,056 ha of Kahikatea (*Dacrycarpus dacrydioides*) dominant forest was present in the Waikato region prior to human occupation. Today these forests occupy a mere 1096 ha (0.55% of their original estimated extent). The Kahikatea forest remnants provide core and stepping stone habitats for native fauna. However, introduced pests, edge effects, and intensification of pastoral farming threaten the health and sustainability of these remnants. An updated regional spatial inventory of Kahikatea remnants in the region has been compiled and an ecological resilience index is also being developed. Together these will underpin monitoring and ultimately help inform management priorities including replanting, restoring environmental conditions, and monitoring to safeguard these remnants across the region.

The main component of this work is a desktop mapping exercise using aerial photography (WRAPS 2012). Historic vegetation coverage was estimated using a Potential Ecosystem layer (Singers, 2014). Statistical and spatial analyses by land tenure and ground-checking for polygon accuracy were also undertaken. Within the region, the Waitomo district retains the highest cover of Kahikatea dominated remnants with 1.99% remaining, and the Matamata-Piako district has the least with 0.17%. Others include the Waikato district with 1.10%, Waipa district 0.77%, Hamilton City 0.43%, Hauraki district 0.26%, and Otorohanga district 0.25%. The average size of Kahikatea remnants across the region is 1.5 ha. Most occur on private land (c. 90%) with 58 ha (5.3%) protected under QEII covenants, and 28 ha (2.6%) under Nga Whenua Rahui Kawenata. DOC (26 ha), District Council (20 ha), or Regional Council (4 ha). With the greater proportion occurring on private land, there are opportunities for the Regional Council to facilitate protection of these remnants.

The resulting information will be integrated within an ecological index framework to further enhance the ecosystem functioning and resilience of the Kahikatea remnants in the Waikato.