

# Identifying sites for restoration of the former floodplain forests of the Hauraki Plains

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Recent work to prioritise sites for their ability to contribute to the conservation of a representative range of indigenous ecosystems in the Waikato Region highlighted the profound loss since human settlement of podocarp-dominant forests that were once extensive across large parts of the Hauraki Plains. In an analysis reported here, we examined the distribution of surviving indigenous ecosystem fragments on the Hauraki Plains, focussing on identifying sites that would provide the most efficient opportunities for conservation of totara- and kahikatea-dominant forests through management of surviving remnants, including the use of restoration to expand their extent. The spatial conservation planning software, Zonation, was used to calculate ranks across the entire landscape taking account of the distribution of surviving indigenous-dominated ecosystem fragments, and the potential ecosystem cover for sites now dominated by exotic species; account was also taken of the desirability of locating restoration sites in close proximity to surviving patches of indigenous-dominated ecosystems. Spatial data describing variation in agricultural potential across the Hauraki Plains was used to explore of the trade-off between biodiversity conservation and protection of existing agricultural production. Results indicate the likely high cost of augmenting the few surviving remnants of totara- and kahikatea-dominated forests, given that historically they occurred generally on soils with high agricultural potential. Incorporation of land-use data into the analysis resulted in higher rankings being allocated to restoration sites on less productive land, but restoring these sites to their likely historic cover would increase the extent of ecosystem types that are already well represented on public conservation land. Restoration of significant areas of totara- and kahikatea-dominant forest in the environments that they formerly occupied would therefore require either the identification of opportunities on land that is already in public ownership or the acquisition of land currently in agricultural production.