Local seed not the best for revegetation

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Recent studies show that genetically diverse seeds are best for revegetation. Image: CSIRO

(PhysOrg.com) -- The answer to successful revegetation of native flora is in sourcing genetically diverse seed, not necessarily relying on seed sourced from remnant local native vegetation.

“A common belief is that local native plants are the best source of seed for revegetation projects,” says CSIRO Plant Industry scientist, Dr Linda Broadhurst, “It has been presumed that local seed is adapted to local conditions and therefore provides the best results for restoration projects.

“However, the research shows that where vegetation loss is high and across large areas, ‘local’ seed sources are often small and isolated and can be severely inbred resulting in poor seed crops.

“This can lead to germination failure and poor seedling growth.”

The findings are based on a review the results of which have been published in an article entitled; ‘Seed supply for broadscale restoration: maximising evolutionary potential’ which appears in the latest edition of the journal, Evolutionary Applications.

The review – undertaken by Dr Broadhurst and her collaborators part of the ARC-NZ Research Network for Vegetation Function – covers the appropriateness of using ‘local’ seed, how much seed and the types of populations that should be sampled, and the impact that over-harvesting might have on remnant populations.

“The current emphasis on using local seed sources for revegetation will, in many cases, lead to poor restoration outcomes,” Dr Broadhurst says.

“Our findings show that seed sourcing should concentrate less on collecting from local environments and more on capturing high quality and genetically diverse seed.

“This will ensure that restored populations across Australia have ample genetic diversity to respond to changing environments over the coming decades.”

Land and water degradation resulting from land clearing is a global problem. Effective restoration techniques are essential in reducing the damage and improving the environment.

Provided by CSIRO