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## Why Choose Regionally Adapted Natives?

Restoration of functional habitats and systems relies heavily on the use of native plants and seed. Despite widespread evidence for local adaptation across taxa (Leimu and Fischer 2008; Alberto et al. 2013), limited availability of genetically appropriate material in the Madrean Archipelago ecoregion results in a high probability that seed from distant or unknown provenances will be introduced during restoration (Johnson et al. 2010), potentially producing an array of unintended negative effects that reduce population fitness (Lesica and Allendorf 1999; Hufford and Mazer 2003; McKay et al. 2005). Additionally, there is growing recognition that the success of restoration plantings faced with climate change depends heavily on the inherent adaptive genetic variability in the source material (Davis and Shaw 2001; Jump and Peñuelas 2005), and that the contribution of restored plant communities to larger ecosystem function may be dependent on matching the genetic composition of source material to nearby populations at the planting site (Espeland et al. 2017). This support in peer-reviewed literature notwithstanding the land manager's job of selecting for the "right seed, right place, right time" is made significantly more difficult by the minimal availability of genetically-appropriate seed and the absence of guiding resources.

Wild seed collection and seed "banking" programs are the starting point for meeting regional and national restoration goals, providing the genetic and advisory resources that may determine the contribution of restored plant communities to ecosystem function (Espeland et al. 2017). Considering the inherent, high costs of supporting a field collection crew, it is more efficient to take a strategic approach that relies on extensive collaboration, than to collect solely on a for-project basis.

Planting regionally adapted native plants is a cornerstone for meeting regional and national restoration goals. Using native plants that can be sourced to their origins is important when factoring in successful genetics for surviving the wild, which vary region to region. The Madrean Archipelago Plant Propagation Initiative (MAPP) worked during 2016 to develop a seed strategy for the madrean archipelago and is available online at [www.borderlandsrestoration.org/regional-seed-strategy.html](http://www.borderlandsrestoration.org/regional-seed-strategy.html), outlining target species and a strategy for the collection, research, and curation necessary to address restoration goals over a 5-year period.

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