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From Forest Nursery Notes, Winter 2011

**50. © What are the best seed sources for ecosystem restoration on BLM and USFS lands?** Johnson, R., Stritch, L., Olwell, P., and Lambert, S. Native Plants Journal 11(2):117-131. 2010.

# What are the best seed sources for ecosystem restoration on BLM and USFS lands?

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## ABSTRACT

Native plant restoration policy calls for use of “genetically appropriate” native plant material on USDI Bureau of Land Management (BLM) and USDA Forest Service (USFS) lands. In this article, we summarize experimental evidence showing that local adaptation is widespread in all kingdoms of life, and how this “home-field advantage” has been exploited in forest restoration activities to develop and promote regionally adapted, genetically diverse restoration materials. The importance of such materials is highlighted in the context of changing environmental conditions, such as those predicted in future climate change scenarios. Although the adaptive properties of most restoration species remains unexamined, numerous tools exist for identifying similar environments and ecosystems, and these can be used to develop first-generation seed zones. Finally, general recommendations for establishing foundation populations are outlined so that pre-adapted populations retain sufficient genetic diversity to acclimate to new evolutionary challenges, while minimizing the likelihood of deleterious genetic outcomes (for example, inadvertent selection of undesirable traits; inbreeding depression).

Johnson R, Stritch L, Olwell P, Lambert S, Horning ME, Cronn R. 2010. What are the best seed sources for ecosystem restoration on BLM and USFS lands? *Native Plants Journal* 11(2):117–131.

## KEY WORDS

seed zones, ecotypes

## NOMENCLATURE

USDA NRCS (2010)