

# ADAPTIVE NATIVE GRASSLAND ESTABLISHMENT, MANAGEMENT & FIELD SAMPLING<sup>1</sup>

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**Abstract:** Following SMCRA, the science of reclamation began to evolve with trial and error research. Confidence soon began to grow in seed mixtures to establish and meet ever changing bond release standards. Management following establishment moved from being primarily idling of the land and hoping for the best to one utilizing haying and grazing to maintain/create diverse and seasonally balanced native grasslands. Prior to bond release, a detailed sampling plan can facilitate the evaluation of native grasslands in that snapshot in time. This plan could be the difference between meeting the current bond-release standards in place or not meeting them and incurring even more costs. Even with the amount of knowledge gleaned over the years, a large number of unknown variables are still inherent in today's reclamation. To keep moving the science forward and avoid complacency, further research and/or reclamation adaptations will need to continue. This needs to occur with incentives and without disincentives to those companies who take chances. In some cases, previous research has been conducted and proven to be sound but not implemented by regulatory authorities. In North Dakota, the uniform soil depth requirement may be hampering the development of native grasslands. The current lack of potential ecological site diversity on reclaimed lands may be allowing for an accelerated rate of invasive species encroachment. Future potential rule changes, increased plant species made available by seed companies at economical prices, and mining companies willing to push the envelope by utilizing knowledge of environmental specialists and others in the state will assist in alleviating today's bond release challenges.

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