

Grassland Conversion Plan, Hopewell Culture National Historical Park

This project would convert 107 acres of former agriculture fields, in 3 different plots to native grassland. Prior to grassland conversion, the agriculture fields would be treated using Round-up Ready or Liberty Link soybeans, technically termed genetically modified soybeans. The park's unique archeological resources are vulnerable to erosion. The former crop lands they rest on must be stabilized with herbaceous vegetation that will both prevent further erosion and resist invasion by aggressive alien plant species. The park is required by law to eradicate invasive species listed as noxious weeds by the state of Ohio. Native prairie species, once established in a native grassland community, can resist alien plant invasion due to the thickness of a stable prairie rhizosphere. The park's Cultural Landscape Report (CLR) has recommended that the former croplands surrounding the earthworks be planted in native grassland vegetation in order to create an appropriate cultural landscape around these ceremonial sites. A properly maintained native grassland community can provide habitat for pollinators and federally-listed species of concern.

The earthworks and buffer zones have previously been disturbed by agricultural practices like plowing and planting crops. The proposed restoration fields have an established seed bed of invasive alien plants because many of them have been left fallow for years. Current management of the existing vegetation on the agriculture fields requires the removal of invasive plants and encroaching woody vegetation using herbicides. The extent of park earthworks is enormous and there are archeological resources in these fields. Allowing the former agriculture fields to revert to forest would damage the archeological resources, leaving the fields in agriculture production for the long term would be inconsistent with archeological preservation. Converting the agriculture fields to grassland will limit future herbicide application after the conversion is complete.

A recognized best practice for grassland conversion is to plant soybeans for two to three years in preparation for the seeding grasses. This proposed technique is recommended by prairie restoration experts as an effective way to prepare the soil for native grassland establishment, because it removes invasive plants and invasive plant seeds from a plot in order to prepare the ground for native grassland seeds with the least amount of herbicide used. Alternating Round-up Ready soybeans with Liberty Link soybeans annually will control invasive species that have become resistant to one or the other herbicide, an additional treatment of 2,4-D, controls remaining broad leaf plants. For areas with permeable soils and a shallow water table, Liberty herbicide can be used instead of 2,4-D.

Selected former agriculture fields are identified on the maps below:

1) Hopeton Earthworks buffer zones, 37 acres, soybean farming for 2 years, to be planted in native grassland in 2019; 2) Seip Earthworks buffer zones, 39 acres, soybean farming for 2 years, to be planted in native grassland in 2019; 3) Mound City Group buffer zones, 36 acres, soybean farming for 3 years, to be planted in native grassland in 2020

The proposed action is consistent with NPS Management Policies (2006) the park's approved General Management Plan/Environmental Assessment (see DGMP/EA page p. 47; FONSI signed 4/7/1997) and Cultural Landscape Report/EA (FONSI signed 9/14/2016).



