

# Map Unit Properties Table: Homestead National Monument of America

The geologic map data for Homestead NM of America only includes three bedrock units: Dakota Formation, Chase Group, and Council Grove Group. Quaternary deposit descriptions were derived from information regarding regional surficial deposits.

Age	Unit Name (Symbol)	Features and Description	Erosion Resistance	Suitability for Infrastructure	Hazards	Paleontological Resources	Cultural Resources	Mineral and Potential Economic Resources	Caves and/or Karst	Habitat	Recreation	Geologic Significance
QUATERNARY (Holocene)	Modern stream alluvium	Clay, silt, and possibly minor sand and pebble deposits. Surficial mapping could provide a more detailed description.	Low.	Floodplain so suitable for trails but not for permanent structures.	Bank erosion along Cub Creek.	None.	Possible early settler and American Indian artifacts transported by streams.	Unknown. Possible sand and gravel.	None.	Riparian woodland: bur oak, silver maple, red elm, hackberry, cottonwood, boxelder.	Woodland Loop Trail. Freeman brick house. Squatter's cabin.	Typical landscape of Great Plains Province.
	Terrace and upland slope	Clay, silt, sand, and possibly pebble deposits. Surficial mapping could provide a more detailed description.	Variable. Erodes by lateral stream migration, but vegetation stabilizes the surface.	Good. Contains roads, parking lot, buildings, grave site.	Minor. May provide sediment to Cub Creek during spring flooding.	None.	Potential archeological sites: paleoIndian, American Indian, Euro-American.	Unknown. Possible sand and gravel.	None.	Native and restored tall-grass prairie: big and little bluestem, Indiangrass, switchgrass, goldenrod, fieldpusstoes, leadplant.	Farm Loop Trail; Upland Prairie Loop Trail; Freeman graves; Heritage Center; Education Center; native plants exhibit.	Typical landscape of Great Plains Province.
QUATERNARY (Pleistocene)	Loess and glacial outwash deposits	Loess: Light-tan silt. Windblown, homogeneous deposit. Weakly cemented but has the strength to maintain steep slopes. Provides parent material for modern soils. Outwash: Sand and gravel deposited by streams flowing from the terminal margin of a glacier.	Loess: High unless disturbed. Outwash: depends on sediment size.	Loess: Low crushing strength requires deep supports for buildings.	May provide sediment to Cub Creek.	Potential for Pleistocene fossil sites.	Potential archeological sites where exposed.	Outwash: sand and gravel.	None.	Not exposed in the monument.	Not exposed in the monument.	Interglacial windblown loess and fluvial deposits from glacial outwash.
	Glacial till deposits	Unsorted deposits of clay, silt, sand, pebbles, cobbles, and boulders deposited because of glacial melting. Provides parent material for modern soils.	Variable depending on compaction and grain size.	High.	May provide sediment to Cub Creek.	Potential for Pleistocene fossil sites.	Potential archeological sites where exposed.	Unsorted nature of the deposits limits potential.	None.	Not exposed in the monument.	Not exposed in the monument.	Indicates glacial activity and may mark glacial boundaries.
<b>REGIONAL UNCONFORMITY</b> Approximately 100 million years of geologic history is missing from the stratigraphic record.												
CRETACEOUS (Upper)	Dakota Formation (Kd)	Light gray, yellowish gray, brownish gray, and reddish brown, fine to coarse grained micaceous sandstone and interbedded sandy carbonaceous shale, lenses of sand cemented by iron oxide and siltstone concretions; lenticular bedding, locally cross-bedded, with scattered chert pebbles. Equivalent to Dakota Group of the Nebraska Geological Survey, which includes (descending order): the Omadi Sandstone, Skull Creek Shale, Fall River Sandstone, Fuson Shale, and Lakota Sandstone. Present in the subsurface, but not exposed in the monument.	High.	Exposed along river banks away from monument boundaries.	None.	Potential for <i>inoceramus</i> (clam) shells and vertebrate fossils. Dinosaur tracks found in southeastern Nebraska.	Provided stone for tool manufacture by American Indian groups.	Some shale deposits were used to make brick and tile.	None.	Grasses, weeds, and woodland when exposed along river banks.	Not exposed in the monument.	Represents fluvial-estuarine deposition along the eastern margin of the Western Interior Seaway.
CRETACEOUS (Lower)												
PERMIAN (Cisuralian "Lower")	<b>REGIONAL UNCONFORMITY</b> Approximately 125 million years of geologic history is missing from the stratigraphic record.											

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PERMIAN (Cisuralian "Lower")	Chase Group (Pc)	Light gray to dark gray, yellowish gray to pale yellowish brown limestone and gray, green, red, reddish brown shale. Two thin-bedded to medium-bedded limestones in the upper part are argillaceous, cherty and fossiliferous; two medium-bedded to massive-bedded limestones in the lower part are very cherty, and fossiliferous. Shale is calcareous, arenaceous, fossiliferous, and locally fissile. Equivalent to upper part of Big Blue Series of the Nebraska Geological Survey, which includes (descending order): Nolans Limestone, Odell Shale, Winfield Limestone, Gage Shale, Towanda Limestone, Holmesville Shale, Barneston Limestone, Blue Springs Shale, Kinney Limestone, Wymore Shale, and Wreford Limestone. Present in the subsurface, but not exposed in the monument.	Variable. Limestone is more resistant than shale.	Exposures are typically limited to river-banks or road cuts in eastern Nebraska.	None.	Invertebrate marine fossils and trace fossils (trails, tracks, and burrows).	Chert (flint) was used by American Indian groups. Flint quarries occur southeast of the monument.	Limestone quarried for concrete aggregate, riprap, or agricultural lime.	Potential for dissolution caves and sinkholes in limestone units.	Grasses, weeds, and woodland when exposed along river banks.	Not exposed in the monument.	Overall regressive episode as the shallow sea retreated from the midcontinent.
	Council Grove Group (Pcg)	Gray, green red, reddish brown, or maroon shale and interbedded dark- to light-gray, medium- to thick-bedded limestone. Shale is sandy, calcareous, fossiliferous; locally fissile; several fissile black shale beds are in the lower 23 m (75 ft). Limestone is cherty, argillaceous, very fossiliferous and locally contain shale partings. Equivalent to middle part of the Big Blue Series of Nebraska Geological Survey, which includes (descending order): Speiser Shale, Funston Limestone, Blue Rapids Shale, Crouse Limestone, Easley Creek Shale, Bader Limestone, Stearns Shale, Beattie Limestone, Eskridge Shale, Grenola Limestone, Roca Shale, Red Eagle Limestone, Johnson Shale, and Foraker Limestone. Present in the subsurface; not exposed in the park.	Variable. Limestone is more resistant than shale.	Exposures are typically limited to river-banks or road cuts in eastern Nebraska.	None.	Invertebrate marine fossils and trace fossils (trails, tracks, and burrows).	Chert (flint) was used by American Indian groups. Flint quarries occur southeast of the monument.	Limestone quarried for concrete aggregate, riprap, or agricultural lime.	Potential for dissolution caves and sinkholes in limestone units.	Grasses, weeds, and woodland when exposed along river banks.	Not exposed in the monument.	Cyclothem record sea level rise and fall due to glaciation. Fluvial-estuarine deposits resulting from sea level fluctuations.
PENNSYLVANIAN												

Map reference: Burchett, R.R., V.H. Dreezen, and E.C. Reed. 1972. Bedrock geologic map showing thickness of overlying Quaternary deposits, Lincoln Quadrangle and part of Nebraska City Quadrangle, Nebraska and Kansas. Miscellaneous Geologic Investigations Map I-729, U.S. Geological Survey, Reston, Virginia, USA. (scale 1:250,000).