

Major Land Resource Area 052X

Brown Glaciated Plains

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Ecological site keys

MLRA 52X Dry Grassland LRU Key - Version 8.2

- A. Site Receives additional moisture either from groundwater (endosaturation) or from surface water (episaturation)
- 1a. Soil Saline ($EC \geq 4$) and/or Sodic ($SAR \geq 13$) within surface 4" (10 cm)
 - 2a. Water table $< 24"$ (60 cm) soil poorly drained with long duration ponding, seasonal lake beds, depressions, & flats, vegetation sparse ... FX052X99X003 – Alkali Flat (Af)
 - 2b. Water table $> 24"$ (60 cm); soil somewhat well drained to well drained
 - 3a. Seasonal high water table 24-40" (60-102 cm) from surface, soil somewhat well drained, usually endosaturation ... FX052X99X092 – Saline Subirrigated (Ssb)
 - 3b. Seasonal high water table $> 40"$ (102 cm), soil well drained, usually episaturation ... FX052X99X091 – Saline Overflow (Sov)
 - 1b. Soil neither saline nor sodic [$EC < 4$ and $SAR < 13$ within surface 4" (10 cm)]
 - 4a. Site is a closed depression with run in
 - 5a. Site receives water from groundwater discharge - accumulated salts moderate to high ... FX052X99X705 – Discharge Closed Depression (Cdr)
 - 5b. Site does not receive water from groundwater discharge - accumulated salts low ... FX052X99X071 – Recharge Closed Depression (Cdr)
 - 4b. Site is a swale, coulee, or riparian area
 - 6a. Site is located outside of the floodplain
 - 7a. Upland swales and coulees; herbaceous species and/or sagebrush dominate site ... FX052X01X062 – Swale (Se) Dry Grassland
 - 7b. Upland swales & coulees; woody species (chokecherry, serviceberry, green ash) dominate site ... FX052X02X756 – Woody Draw (Wd) Moist Grassland
 - 6b. Site is located inside the floodplain
 - 8a. Site Dominated by woody vegetation ... FX052X99X061 – Riparian Woodland (RW)
 - 8b. Site dominated by herbaceous vegetation
 - 9a. Receives additional moisture from surface water (episaturation) ... FX052X99X060 – Overflow (Ov)
 - 9b. Receives additional moisture from groundwater (endosaturation), water table $\leq 40"$ (102 cm)
 - 10a. Seasonal high water table 24" to 40" (60-102 cm) ... FX052X99X150 – Subirrigated (Sb)
 - 10b. Seasonal high water table $< 24"$ (60 cm) ... FX052X99X084 – Slough (SI)
- B. Site does not receive additional effective moisture
- 1a. Soil saline and/or sodic within surface 20" (50 cm) or soils with natric or relic natric horizons.
 - 2a. Massive, subangular blocky, or prismatic structure; effective rooting depth $> 10"$ (25 cm)
 - 3a. Clay content $< 35\%$ in surface mineral 4" (10 cm) [able to make a ribbon $< 2"$ long] ... FX052X01X094 – Loamy Sodic (Losd) Dry Grassland
 - 3b. Clay content $> 35\%$ in surface mineral 4" (10 cm) [able to make a ribbon $> 2"$ long] ... FX052X01X012 – Dense Clay Sodic (Dcsd) Dry Grassland

- 2b. Columnar structure, abrupt root or water restrictive clay layer present within 10" (25 cm) of soil surface
 - 4a. 0"- 4" (0-10 cm) of surface over clay layer (evidenced by columnar structure)
 - 5a. 1" (2.5 cm) or less of surface over clay layer (evidenced by columnar structure) ...
FX052X01X145 – Panspot (Pn) Dry Grassland
 - 5b. Greater than 1" (2.5 cm) of surface over clay layer (evidenced by columnar structure) ...
FX052X01X165 – Thin Claypan (Tcp) Dry Grassland
 - 4b. Greater than 4" (10 cm) of surface over clay layer (evidenced by columnar structure) ...
FX052X01X006 – Claypan (Cp) Dry Grassland
- 1b. Soil neither saline nor sodic [EC < 4 and SAR < 13 within surface 20" (50 cm)]
 - 6a. Coarse granular clay, site dominated by sandy vegetation (e.g. Prairie sandreed) ... FX052X01X007 –
Coarse Clay (Coc) Dry Grassland
 - 6b. Site not as above
 - 7a. Soil pH < 5.6 in all parts below surface horizon, derived from acid shale parent material
 - 8a. Soil moderately deep [20"-40" (50-102 cm)] > 35% clay - Future site concept Acid Clay (AcC) -
go to 18
 - 18aa. Slope ≥ 15% ... FX052X01X005 – Clayey-Steep (Cystp) Dry Grassland
 - 18bb. Slope < 15%
 - 19aa. Clay content > 35% to 45% in surface mineral 4" (10 cm) ... FX052X01X001 – Clayey
(Cy) Dry Grassland
 - 19bb. Clay content > 45% in surface mineral 4" (10 cm) ... FX052X01X010 – Dense Clay
(DC) Dry Grassland
 - 8b. Soil shallow or very shallow [less than 20" (50 cm)] > 35% clay - Future site concept Shallow Acid
Clay (SwAcC) - see 11a Shallow Clay ... FX052X01X131 – Shallow Clay (Swc) Dry Grassland
 - 7b. Soil pH ≥ 5.6 in all parts below surface horizon, derived from non-acid parent material
 - 9a. Soils moderately deep or shallower [< 40" (100 cm) deep to bedrock, lithic, or paralithic root
restrictive layer]
 - 10a. Clay content is > 35% in surface mineral 4" (10 cm) [ribbon > 2" long]
 - 11a. Soils shallow or very shallow [< 20" (50 cm) deep to bedrock, lithic, or paralithic root
restrictive layer] ... FX052X01X131 – Shallow Clay (Swc) Dry Grassland
 - 11b. Soils moderately deep [≥ 20" (50cm) to < 40" (100cm) deep to bedrock, lithic, or
paralithic root restrictive layer] - go to 18
 - 18aaa. Slope ≥ 15% ... FX052X01X005 – Clayey-Steep (Cystp) Dry Grassland
 - 18bbb. Slope < 15%
 - 19aaa. Clay content > 35% to 45% in surface mineral 4" (10 cm) ... FX052X01X001 –
Clayey (Cy) Dry Grassland
 - 19bbb. Clay content > 45% in surface mineral 4" (10 cm) ... FX052X01X010 – Dense
Clay (DC) Dry Grassland
 - 10b. Clay content ≤ 35% in surface mineral 4" (10 cm) [ribbon < 2" long]
 - 12a. Soils weakly developed, typically lacking a mollic epipedon and argillic horizon ...
FX052X01X160 – Thin Breaks (TB) Dry Grassland
 - 12b. Soils well developed, evidenced by features such as argillic horizons and/or a mollic
epipedon - go to 20
 - 20aa. Strongly or violently effervescent in surface mineral 5" (12 cm), lime conc.
increasing with depth.
 - 21aa. Slope < 15% ... FX052X01X030 – Limy (Ly) Dry Grassland
 - 21bb. Slope ≥ 15% ... FX052X01X029 – Limy-Steep (Lystp) Dry Grassland
 - 20bb. Not strongly or violently effervescent within surface mineral 5" (12 cm)
 - 22aa. Slope < 15% ... FX052X01X032 – Loamy (Lo) Dry Grassland

- 22bb. Slope \geq 15% ... FX052X01X040 – Loamy-Steep (Lostp) Dry Grassland
- 9b. Soils deep to very deep [\geq 40" (100 cm) deep to bedrock, lithic, or paralithic root restrictive layer]
 - 13a. Soil skeletal in surface 20" (50 cm) [\geq 35% rock fragments in most of the surface 20"]
 - 14a. Soil sandy-skeletal within 10 inches of the surface ... FX052X01X021 – Sandy Gravel (Sygr) Dry Grassland
 - 14b. Soil loamy-skeletal within 10 inches of the surface ... FX052X01X022 – Loamy Gravel (Logr) Dry Grassland
 - 13b. Soil not skeletal in surface 20" (50 cm) [$<$ 35% rock fragments in most of the surface 20"]
 - 15a. Sandy textural family in surface mineral 4" (10 cm) - Future Site Concept Sands (Sa) - see 16a Sandy ... FX052X01X110 – Sandy (Sy) Dry Grassland
 - 15b. Coarse loamy or finer textural family in surface mineral 4" (10 cm)
 - 16a. Coarse loamy or coarse silty textural family in surface mineral 4" (10 cm) ... FX052X01X110 – Sandy (Sy) Dry Grassland
 - 16b. Fine loamy, fine silty or finer textural family in surface mineral 4" (10 cm)
 - 17a. Clay content is $>$ 35% in surface mineral 4" (10 cm) [ribbon $>$ 2" long]
 - 18a. Slope \geq 15% ... FX052X01X005 – Clayey-Steep (Cystp) Dry Grassland
 - 18b. Slope $<$ 15%
 - 19a. Clay content $>$ 35% to 45% in surface mineral 4" (10 cm) ... FX052X01X001 – Clayey (Cy) Dry Grassland
 - 19b. Clay content $>$ 45% in surface mineral 4" (10 cm) ... FX052X01X010 – Dense Clay (DC) Dry Grassland
 - 17b. Clay content \leq 35% in surface mineral 4" (10 cm) [ribbon $<$ 2" long]
 - 20a. Strongly or violently effervescent in surface mineral 5" (12 cm), lime conc. increasing with depth.
 - 21a. Slope $<$ 15% ... FX052X01X030 – Limy (Ly) Dry Grassland
 - 21b. Slope \geq 15% ... FX052X01X029 – Limy-Steep (Lystp) Dry Grassland
 - 20b. Not strongly or violently effervescent within surface mineral 5" (12 cm)
 - 22a. Slope $<$ 15% ... FX052X01X032 – Loamy (Lo) Dry Grassland
 - 22b. Slope \geq 15% ... FX052X01X040 – Loamy-Steep (Lostp) Dry Grassland