

**CLASSIFICATION AND CORRELATION
OF
THE SOILS OF**

**JOHNSON COUNTY
INDIANA**

JUNE 1975



**U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
MIDWEST REGIONAL TECHNICAL SERVICE CENTER
LINCOLN, NEBRASKA**

UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Midwest Technical Service Center
Lincoln, Nebraska 68508

Classification and Correlation
of the Soils of
Johnson County, Indiana

The classification and correlation of Johnson County, Indiana was made as part of the final field review and field correlation which was held in the county May 20-24, 1974. The descriptive legend, laboratory data, correlation samples, field notes, revised series descriptions and completed SCS-Soils-5's were reviewed by Frank Sanders, soil correlator, Ralph Sturm, soil survey party leader, Don Franzmeier, Purdue University, and Robert I. Turner. Ray Sinclair, state soil scientist, and E. Eugene Courtney, district conservationist, and Jerry L. Keller, area conservationist, also participated. Robert I. Turner participated in the field review May 14-18, 1973.

| Symbol | Field Name | Approved Name | Manuscript* Map Symbol |
|--------|---|--|---------------------------|
| Br | Brookston silty clay loam |)Brookston silty clay loam | Br |
| Bk | Brookston silt loam, overwash) | | |
| CrA | Crosby silt loam, 0-2% slopes |)Crosby silt loam,)0 to 2 percent slopes | CrA |
| CmB2 | Crosby-Miami silt loams, 2-4% slopes, eroded |)Crosby-Miami silt loams,)2 to 4 percent slopes, eroded | CsB2 |
| Ee | Eel silt loam | Eel silt loam | Ee |
| FnA | Fincastle silt loam, 0-3% slopes |)Fincastle silt loam,)0 to 3 percent slopes | FnA |
| FnB2 | Fincastle silt loam, 2-4% slopes, eroded |)) | |
| FoA | Fox loam, 0-2% slopes |)Fox loam,)0 to 2 percent slopes | FoA |
| FoB2 | Fox loam, 2-6% slopes, eroded |)Fox loam,)2 to 6 percent slopes, eroded | FoB2 |

*The first capital letter is the first one of the series name. The lower case letter that follows separates mapping units having names that begin with the same letter except that it does not separate sloping or eroded phases. The second capital letter indicates the class of slope. Symbols without a slope letter are those with a slope range of 0 to 2 percent. A final number of 2 or 3 in the symbol indicates that the soil is eroded or severely eroded respectively.

| Symbol | Field Name | Approved Name | Manuscript Map Symbol |
|--------|---|--|--------------------------|
| FoC2 | Fox loam, 6-12% slopes, eroded |) Fox complex,) 6 to 12 percent slopes, | FxC2 |
| FxC3 | Fox clay loam, 6-12% slopes, severely eroded |) eroded | |
| FzD3 | Fox clay loam, 12-18% slopes, severely eroded |) | |
| FoD2 | Fox loam, 12-18% slopes, eroded |) | |
| RoF | Rodman gravelly loam, 18-50% slopes |) | |
| Ge | Genesee loam |) Genesee loam | Ge |
| St | Stonelick sandy loam |) (Add sand spot symbols to areas of St, one symbol for each 5 acres or each delineation, whichever is smaller) | |
| HeF | Hennepin loam, 25-50% slopes |) Hennepin loam,) 25 to 50 percent slopes | HeF |
| HkD2 | Hickory silt loam, 12-18% slopes |) Hickory silt loam,) 12 to 18 percent slopes, eroded | HkD2 |
| HkF | Hickory silt loam, 18-40% slopes |) Hickory silt loam,) 18 to 40 percent slopes | HkF |
| MnB2 | Miami silt loam, 2-6% slopes, eroded |) Miami silt loam,) 2 to 6 percent slopes, | MnB2 |
| RuB2 | Russell silt loam, 2-6% slopes, eroded |) eroded | |
| MnC2 | Miami silt loam, 6-12% slopes, eroded |) Miami silt loam,) 6 to 12 percent slopes, eroded | MnC2 |
| MnD2 | Miami silt loam, 12-18% slopes, eroded |) Miami silt loam,) 12 to 18 percent slopes, eroded | MnD2 |
| MnE | Miami silt loam, 18-25% slopes |) Miami silt loam,) 18 to 25 percent slopes | MnE |
| MtB3 | Miami clay loam, 2-6% slopes, severely eroded |) Miami clay loam,) 2 to 6 percent slopes,) severely eroded | MtB3 |

| Symbol | Field Name | Approved Name | Manuscript Map Symbol |
|--------|---|---|-----------------------|
| MtC3 | Miami clay loam, 6-12% slopes, severely eroded |) Miami clay loam,) 6 to 12 percent slopes,) severely eroded | MtC3 |
| MtD3 | Miami clay loam, 12-18% slopes, severely eroded |) Miami clay loam,) 12 to 18 percent slopes,) severely eroded | MtD3 |
| MuA | Muren silt loam, 0-3% slopes |) Muren silt loam,) 0 to 3 percent slopes | MuA |
| MxG | Muskingum silt loam, 25-50% slopes |) Muskingum silt loam,) 25 to 50 percent slopes | MxG |
| NnA | Nineveh loam, 0-2% slopes |) Nineveh loam,) 0 to 2 percent slopes | NnA |
| OcA | Ockley loam, 0-2% slopes |) Ockley loam,) 0 to 2 percent slopes | OcA |
| MgA | Martinsville loam, 0-2% slopes |)) | |
| MgB2 | Martinsville loam, 2-6% slopes, eroded |) Ockley loam,) 2 to 6 percent slopes, eroded | OcB2 |
| Pa | Palms muck | Palms muck | Pa |
| PkB2 | Parke silt loam, 2-6% slopes, eroded |) Parke silt loam,) 2 to 6 percent slopes, eroded | PkB2 |
| PkC2 | Parke silt loam, 6-12% slopes, eroded |) Parke silt loam,) 6 to 12 percent slopes, eroded | PkC2 |
| Re | Rensselaer silty clay loam | Rensselaer silty clay loam | Re |
| Rs | Ross loam | Ross loam | Rs |
| Sh | Shoals silt loam | Shoals silt loam | Sh |
| Sk | Sleeth loam | Sleeth loam | Sk |
| Sn | Sloan clay loam | Sloan clay loam | Sn |
| WdC2 | Wellston silt loam, 6-12% slopes, eroded |) Wellston silt loam,) 6 to 12 percent slopes,) eroded | WdC2 |
| WdB2 | Wellston silt loam, 2-6% slopes, eroded |)) | |

| Symbol | Field Name | Approved Name | Manuscript Map Symbol |
|--------|--------------------|--------------------|--------------------------|
| We | Westland clay loam | Westland clay loam | We |
| Wh | Whitaker silt loam | Whitaker silt loam | Wh |

Miscellaneous Mapping Units Correlated As Spot Symbols

| | | |
|-------------|-------------|----------------------|
| Map Symbol: | Field Name: | Approved Name: |
| GP | Gravel pits | Gravel pit <u>1/</u> |

Series Established by this Correlation:

None

Series Dropped or Made Inactive:

None

Join Statement:

Johnson County joins the published soil survey of Shelby County on the east and the to-be-published Bartholomew County survey on the south and the nearly completed soil survey of Marion County on the north. A more detailed statement of the join is on file at the principal soil correlator's office and in the Indiana state office.

General soil maps are reasonably joined. Detailed soil maps are well matched except in a few instances where soils which were represented in one county are not well represented in the other. The joins are reasonable. Interpretations are coordinated with state and type location interpretative values.

Disposition of Field Sheets:

The field sheets are ASCS photography and are being compiled onto 1:15840 scale high altitude atlas sheets. The compiled survey will be forwarded to the Lincoln Cartographic Unit to have overlays prepared for map finishing by Indiana using the new finishing procedures. Guidance for completing overlays will be provided by the Technical Service Center at Lincoln, Nebraska. Compilation of the original field sheets will be completed by February 14, 1975.

Instructions for Map Compilation:

The atlas sheets show highways clearly. Indiana indicates that they would consider not having highways and roads shown by conventional line symbols but would identify the state and federal highways using symbols for route numbers. Railroads are less apparent and some stretches are adjacent and parallel to the major highways. The correlator recommends that highways not be shown but that railways be shown using conventional signs.

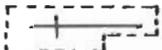
1/Symbol to be used in compiling maps is listed in Guide for Soil Map Compilation on Photobase Sheets. Acreage should be shown in the acreage table of the soil survey report.

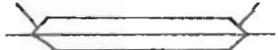
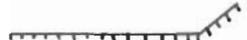
The mapping on some atlas sheets is quite detailed and while these have been compiled upon 1:15840 atlas sheets, the placement of symbols within small delineations may be somewhat difficult in map finishing. This is particularly true of the very narrow units and especially those units along neat lines which continue onto adjacent field sheets. In map finishing, minimum size for delineations must be established and adhered to.

All cultural symbols to be retained for publication are noted as are those to be deleted. Appropriate symbols will be assigned using the Guide for Soil Map Compilation on Photobase Map Sheets, SCS, 1970. Conditions or items represented by symbols are included in mapping unit discussions.

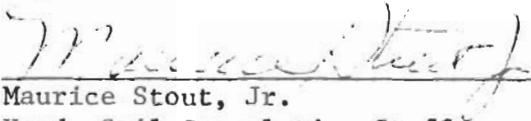
LEGEND OF CONVENTIONAL SYMBOLS

| <u>Description</u> | <u>Field Sheet Symbol</u> | <u>Recommended Disposition</u> |
|--|---------------------------|--|
| HIGHWAYS AND ROADS | | |
| Divided (wide or variable median) | | If shown on published soil survey, show as per coded Co. Highway Map furnished with field sheets |
| Dual (with no median; label) | | |
| Good motor | | |
| Poor motor | | |
| INTERCHANGES | | |
| Existing (to scale; per photo image) | | Retain |
| ROUTE DESIGNATIONS | | |
| Interstate, U.S., state | | Retain |
| RAILROADS | | |
| Single track | | Retain |
| Double track | | Retain |
| Abandoned | | Retain |
| BRIDGES AND CROSSINGS (named or over 300 ft.) | | |
| BUILDINGS AND SIMILAR FEATURES | | |
| Large buildings (to scale; label) | | Retain |
| Farmstead, house (not shown in urban areas) | | Retain |

| <u>Description</u> | <u>Field Sheet Symbol</u> | <u>Recommended Disposition</u> |
|--|--|--------------------------------|
| BUILDINGS AND SIMILAR FEATURES (con't.) | | |
| Church (to scale, if large) |  | Retain |
| School (to scale, if large) |  | Retain |
| Airport (small) |  | Retain |
| Storage tanks (label) |  | Retain |
| BOUNDARIES | | |
| County |  | Retain |
| National forest, state forest, large park or reservation |  | Retain |
| Cemetery |  | Retain |
| SECTION OR OTHER LAND SURVEY CORNERS | | |
| DRAINAGE FEATURES | | |
| Streams, double-line | | |
| Perennial |  | Retain |
| Intermittent |  | Retain |
| Streams, single-line | | |
| Perennial |  | Retain |
| Intermittent |  | |
| Crossable with tillage implements |  | Retain |
| Not crossable with tillage implements |  | Retain |
| Gully |  | Retain |
| Drainage end or alluvial fan |  | Retain |
| Lakes, ponds, and reservoirs | | |
| Perennial |  | Retain |
| Intermittent |  | Retain |

| <u>Description</u> | <u>Field Sheet Symbol</u> | <u>Recommended Disposition</u> |
|-----------------------------------|--|--------------------------------|
| DRAINAGE FEATURES (con't.) | | |
| Spring |  | Retain |
| Wet spot |  | Retain |
| Swamp, marsh |  | Delete |
| DAMS | | |
| Very large (to scale) |  | Retain |
| Small; stock or farm pond |  | Retain |
| RELIEF FEATURES | | |
| Escarpments | | |
| Bedrock |  | Retain |
| Other than bedrock |  | Retain |
| Levee (ticks on water side) |  | Retain |
| SPECIAL SOIL SYMBOLS | | |
| Gravel spot, area |  | Retain |
| Gravel pit |  | Retain |
| Outcrops | | |
| Rock |  | Retain |
| Sand spot, area |  | Retain |
| Severely eroded spot |  | Retain |
| Soil sample site |  | Delete |
| Stony, very stony |  | Retain |

Approved: June 4, 1975


 Maurice Stout, Jr.
 Head, Soil Correlation Staff
 Midwest TSC

CONVERSION LEGEND RELATING FIELD SYMBOLS
TO PUBLICATION SYMBOLS

| Field Symbol | Publication Symbol | Field Symbol | Publication Symbol |
|--------------|--------------------|--------------|--------------------|
| Bk | Br | MtB3 | MtB3 |
| Br | Br | MtC3 | MtC3 |
| CmB2 | CsB2 | MtD3 | MtD3 |
| CrA | CrA | MuA | MuA |
| Ee | Ee | MxG | MxG |
| FnA | FnA | NnA | NnA |
| FnB2 | FnA | OcA | OcA |
| FoA | FoA | OcB2 | OcB2 |
| FoB2 | FoB2 | Pa | Pa |
| FoC2 | FxC2 | PkB2 | PkB2 |
| FoD2 | FxC2 | PkC2 | PkC2 |
| FxC2 | FxC2 | Re | Re |
| FxC3 | FxC2 | RoF | FxC2 |
| FzD3 | FxC2 | Rs | Rs |
| Ge | Ge | RuB2 | MnB2 |
| HeF | HeF | Sh | Sh |
| HkD2 | HkD2 | Sk | Sk |
| HkF | HkF | Sn | Sn |
| MgA | OcA | St | Ge |
| MgB2 | OcB2 | WdB2 | WdC2 |
| MnB2 | MnB2 | WdC2 | WdC2 |
| MnC2 | MnC2 | We | We |
| MnD2 | MnD2 | Wh | Wh |
| MnE | MnE | | |

CLASSIFICATION OF PEDONS SAMPLED FOR LABORATORY ANALYSIS

Purdue University Lab. Data

| Sampled As: | Sample No.: | Classification: |
|-------------|-----------------|--|
| Crosby | S71IN41-3-(1-6) | Crosby <u>1/</u> |
| Crosby | S71IN41-4-(1-6) | Crosier - inclusion in Crosby mapping unit |
| Fox | S73IN41-6-(1-7) | Fox <u>2/</u> |
| Rensselaer | S71IN41-1-(1-7) | Rensselaer |
| Rensselaer | S71IN41-2-(1-7) | Rensselaer <u>3/</u> |
| Ross | S73IN41-5-(1-6) | Ross <u>4/</u> |
| Sleeth | S73IN41-7-(1-7) | Sleeth <u>5/</u> |

1/ Pedon is marginal to fine-loamy family.

2/ Pedon appears to contain the maximum amount of gravel allowed in the defined range for the Fox series.

3/ Pedon contains the maximum amount of coarse fragments that are allowed in the range of the Rensselaer series.

4/ Pedon appears to contain the minimal amount of clay as defined for the Ross series.

5/ Pedon appears to contain the minimal amount of gravel as defined for the Sleeth series, especially in the C horizon as sampled.

NOTES TO ACCOMPANY
Classification and Correlation
of the Soils of
Johnson County, Indiana

by
Robert I. Turner

BROOKSTON SERIES

A few hundred acres of Brookston silt loam, overwash have been combined with the Brookston silty clay loam. The nature of and landscape location of this inclusion will be described in the mapping description.

CROSBY SERIES

These soils are marginal to the fine-loamy texture family because the upper 20 inches of the argillic horizon averages about 34 percent clay. The argillic horizon typically contains 10 inches or so of heavy clay loam which in the representative pedon contained 39 percent clay. Crosier soils are similar but have lower clay contents and commonly a higher content of sand than these soils.

FINCASTLE SERIES

Because of small acreage and lack of important differences for use and management, the A and B slopes were combined.

FOX SERIES

Fox soils contain up to 25 percent coarse fragments in the B horizon which is about the largest amount allowed in the range of the series. The FoC2, FxC3, FzD3, and FoD2 were all of rather small extent and the units were quite variable in terms of slope, surface texture, depth to sand and gravel, and depth to free carbonates as well as textures of the B horizon. These units were combined as Fox complex, 6 to 12 percent slopes, eroded. A small acreage of Rodman gravelly loam was included because of small acreage and difficulty of consistently identifying and mapping.

GENESEE SERIES

Small acreage of Stonelick was combined with the Genesee and will be identified on maps with sand spot symbols.

MIAMI SERIES

A small acreage of Russell silt loam was studied briefly in the field. The silt loam portion of the solum was very little thicker than allowed in the Miami series. The general location of this area will be noted in the appropriate mapping unit description of Miami silt loam.

OCKLEY SERIES

Soils previously named Martinsville were judged so similar that they were combined with the units of Ockley.

PALMS SERIES

About 100 acres of this organic soil was correlated. It is in four or five areas which range in size from 10 to 20 acres and is so distinct that it needed to be shown in the published soil survey.

WELLSTON SERIES

A small acreage of WdB2 was combined with the C slope units. It was on narrow ridges and surrounded by C slopes and would be farmed in the same manner as the C slopes.

CLASSIFICATION OF SOILS

| <u>Soil Series</u> | <u>Classification</u> |
|--------------------|---|
| Brookston | Typic Argiaquolls, fine-loamy, mixed, mesic |
| Crosby | Aeric Ochraqualfs, fine, mixed, mesic |
| Eel | Aquic Udifluvents, fine-loamy, mixed, nonacid, mesic |
| Fincastle | Aeric Ochraqualfs, fine-silty, mixed, mesic (Typic) |
| Fox | Typic HapludalFs, fine-loamy over sandy or sandy-skeletal, mixed, mesic |
| Genesee | Typic Udifluvents, fine-loamy, mixed, nonacid, mesic |
| Hennepin | Typic Eutrochrepts, fine-loamy, mixed, mesic |
| Hickory | Typic HapludalFs, fine-loamy, mixed, mesic |
| Miami | Typic HapludalFs, fine-loamy, mixed, mesic |
| Muren | Aquic HapludalFs, fine-silty, mixed, mesic |
| Muskingum | Typic Dystrochrepts, fine-loamy, mixed, mesic |
| Nineveh | Typic Argiudolls, fine-loamy over sandy or sandy-skeletal, mixed, mesic |
| Ockley | Typic HapludalFs, fine-loamy, mixed, mesic |
| Palms | Terric Medisaprists, loamy, mixed, euic, mesic |
| Parke | Ultic HapludalFs, fine-silty, mixed, mesic (PaleudalFs) |
| Rensselaer | Typic Argiaquolls, fine-loamy, mixed, mesic |
| Ross | Cumulic Hapludolls, fine-loamy, mixed, mesic |
| Shoals | Aeric Fluvaquents, fine-loamy, mixed, nonacid, mesic |
| Sleeth | Aeric Ochraqualfs, fine-loamy, mixed, mesic |
| Sloan | Fluvaquentic Haplaquolls, fine-loamy, mixed, mesic |
| Wellston | Ultic HapludalFs, fine-silty, mixed, mesic |
| Westland | Typic Argiaquolls, fine-loamy, mixed, mesic |
| Whitaker | Aeric Ochraqualfs, fine-loamy, mixed, mesic |