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# Hydric Rating By Mapunit

Jason Nemecek, Doug Slabaugh, and Steve Campbell

2019-07-16

This rating for Hydric Soil Category indicates the components of map units that meet the criteria for hydric soils. Map units are composed of one or more major soil components or soil types that generally make up 20 percent or more of the map unit and are listed in the map unit name. Map units may also have one or more minor contrasting soil components that generally make up less than 20 percent of the map unit. Each major and minor component that meets the hydric criteria is rated hydric. The map unit class ratings based on hydric components are: hydric, predominantly hydric, partially hydric, predominantly nonhydric, and nonhydric. The report also shows the total representative percentage of each map unit that the hydric components comprise.

1. **“Hydric”** means that all major and minor components listed for a given map unit are rated as hydric.
2. **“Predominantly Hydric”** means that all major components listed for a given map unit are rated as hydric and at least one contrasting minor component is not rated hydric.
3. **“Partially Hydric”** means that at least one major component listed for a given map unit is rated as hydric and at least one other major component is not rated hydric.
4. **“Predominantly Nonhydric”** means that no major component listed for a given map unit is rated as hydric and at least one contrasting minor component is rated hydric.
5. **“Nonhydric”** means no major or minor components for the map unit are rated hydric. The assumption is that the map unit is nonhydric even if none of the components within the map unit have been rated.

## Rating Class

Rating class values for calculating component acres.

| **Hydric Class Count** | **Low** | **RV** | **High** |
| --- | --- | --- | --- |
| Hydric | 100 | 100 | 100 |
| Predominantly Hydric | 80 | 85 | 99 |
| Partially Hydric | 15 | 50 | 79 |
| Predominantly Nonhydric | 1 | 5 | 20 |
| Nonhydric | 0 | 0 | 0 |

Note: For undifferentiated map units in the “Predominantly Hydric” class, the low value is set to “0.”

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

If soils are wet enough for a long enough period of time to be considered hydric, they typically exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in “Field Indicators of Hydric Soils in the United States” (Vasilas, Hurt, and Berkowitz, 2018).

The NTCHS has developed criteria to identify those soil properties unique to hydric soils (Federal Register, 2012). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria use selected soil properties that are described in “Field Indicators of Hydric Soils in the United States” (Vasilas, Hurt, and Berkowitz, 2018), “Soil Taxonomy” (Soil Survey Staff, 1999), “Keys to Soil Taxonomy” (Soil Survey Staff, 2010), and the “Soil Survey Manual” (Soil Survey Division Staff, 1993).

#### Insert identifier(s) string and WKT geometry for each area of interest (AOI) polygon

SELECT @aoiGeom = GEOMETRY::STGeomFromText('MULTIPOLYGON (((-102.12335160658608 45.959173206572416, -102.13402890980223 45.959218442561564, -102.13386921506947 45.944643788188387, -102.12327175652177 45.944703605814198, -102.12335160658608 45.959173206572416)))', 4326);

SELECT @aoiGeomFixed = @aoiGeom.MakeValid().STUnion(@aoiGeom.STStartPoint());

INSERT INTO #AoiTable ( landunit, aoigeom )

VALUES ('T9981 Fld3', @aoiGeomFixed);

SELECT @aoiGeom = GEOMETRY::STGeomFromText('MULTIPOLYGON (((-102.1130336443976 45.959162795100383, -102.12335160658608 45.959173206572416, -102.12327175652177 45.944703605814198, -102.1128892282776 45.944710506326032, -102.1130336443976 45.959162795100383)))', 4326);

SELECT @aoiGeomFixed = @aoiGeom.MakeValid().STUnion(@aoiGeom.STStartPoint());

INSERT INTO #AoiTable ( landunit, aoigeom )

VALUES ('T9981 Fld4', @aoiGeomFixed);

## Soil SQL Script Breakdown

| **aoiid** | **landunit** | **aoigeom** |
| --- | --- | --- |
| 1 | T9981 Fld3 | POLYGON ((-102.13386921506947 45.944643788188387, -102.12327175652177 45.9447036058142, -102.12335160658608 45.959173206572416, -102.13402890980223 45.959218442561564, -102.13386921506947 45.944643788188387)) |
| 2 | T9981 Fld4 | POLYGON ((-102.12327175652177 45.9447036058142, -102.1128892282776 45.944710506326032, -102.1130336443976 45.959162795100383, -102.12335160658608 45.959173206572416, -102.12327175652177 45.9447036058142)) |

#### Create summary acres for each landunit

CREATE TABLE #AoiAcres

( aoiid INT,

landunit CHAR(20),

landunit\_acres FLOAT

);

INSERT INTO #AoiAcres (aoiid, landunit, landunit\_acres )\

SELECT aoiid, landunit,

SUM( ROUND( ( ( GEOGRAPHY::STGeomFromWKB(aoigeom.STAsBinary(), 4326 ).STArea() ) / 4046.8564224 ), 3 ) ) AS landunit\_acres

FROM #AoiTable

GROUP BY aoiid, landunit;

| **aoiid** | **landunit** | **landunit\_acres** |
| --- | --- | --- |
| 1 | T9981 Fld3 | 328.952 |
| 2 | T9981 Fld4 | 318.722 |

#### Populate intersected soil polygon table with geometry

-- Create intersected soil polygon table with geometry

CREATE TABLE #AoiSoils

( polyid INT IDENTITY (1,1),

aoiid INT,

landunit CHAR(20),

mukey INT,

soilgeom GEOMETRY

);

INSERT INTO #AoiSoils (aoiid, landunit, mukey, soilgeom)

SELECT A.aoiid, A.landunit, M.mukey, M.mupolygongeo.STIntersection(A.aoigeom ) AS soilgeom

FROM mupolygon M, #AoiTable A

WHERE mupolygongeo.STIntersects(A.aoigeom) = 1;

#### Populate soil geometry with landunit attribute

-- Soil geometry with landunits

CREATE TABLE #AoiSoils2

( aoiid INT,

polyid INT,

landunit CHAR(20),

mukey INT,

poly\_acres FLOAT,

soilgeog GEOGRAPHY

);

-- Populate Soil geometry with landunit attribute

INSERT INTO #AoiSoils2

SELECT aoiid, polyid, landunit, mukey, ROUND((( GEOGRAPHY::STGeomFromWKB(soilgeom.STAsBinary(), 4326 ).STArea() ) / 4046.8564224 ), 3 ) AS poly\_acres, GEOGRAPHY::STGeomFromWKB(soilgeom.STAsBinary(), 4326 ) AS soilgeog

FROM #AoiSoils;

#### Populate soil map unit acres, aggregated by mukey (merges polygons together)

-- Soil map unit acres, aggregated by mukey (merges polygons together)

CREATE TABLE #M2

( aoiid INT,

landunit CHAR(20),

mukey INT,

mapunit\_acres FLOAT

);

INSERT INTO #M2

SELECT DISTINCT M1.aoiid, M1.landunit, M1.mukey,

ROUND (SUM (M1.poly\_acres) OVER(PARTITION BY M1.landunit, M1.mukey), 3) AS mapunit\_acres

FROM #AoiSoils2 AS M1

GROUP BY M1.aoiid, M1.landunit, M1.mukey, M1.poly\_acres;

| **aoiid** | **landunit** | **mukey** | **mapunit\_acres** |
| --- | --- | --- | --- |
| 1 | T9981 Fld3 | 354627 | 0.426 |
| 1 | T9981 Fld3 | 354648 | 0.287 |
| 1 | T9981 Fld3 | 2494708 | 1.729 |
| 1 | T9981 Fld3 | 2525720 | 56.699 |
| 1 | T9981 Fld3 | 2525732 | 1.35 |
| 1 | T9981 Fld3 | 2525733 | 0.129 |
| 1 | T9981 Fld3 | 2525739 | 28.479 |
| 1 | T9981 Fld3 | 2525745 | 4.983 |
| 1 | T9981 Fld3 | 2525746 | 16.106 |
| 1 | T9981 Fld3 | 2525754 | 12.638 |
| 1 | T9981 Fld3 | 2525764 | 17.691 |
| 1 | T9981 Fld3 | 2525766 | 0.032 |
| 1 | T9981 Fld3 | 2525769 | 181.356 |
| 1 | T9981 Fld3 | 2755648 | 2.449 |
| 1 | T9981 Fld3 | 2755654 | 4.599 |
| 2 | T9981 Fld4 | 2525720 | 8.623 |
| 2 | T9981 Fld4 | 2525724 | 0.458 |
| 2 | T9981 Fld4 | 2525730 | 31.514 |
| 2 | T9981 Fld4 | 2525745 | 62.205 |
| 2 | T9981 Fld4 | 2525746 | 63.55 |
| 2 | T9981 Fld4 | 2525754 | 23.138 |
| 2 | T9981 Fld4 | 2525767 | 3.86 |
| 2 | T9981 Fld4 | 2525769 | 103.909 |
| 2 | T9981 Fld4 | 2755639 | 0.443 |
| 2 | T9981 Fld4 | 2755643 | 9.641 |
| 2 | T9981 Fld4 | 2755648 | 11.382 |

## Component and Layer Tables

These tables collect map unit and component information. This includes all map units selected above and all components (typically soil series) within each map unit that do not have a limiting layer within 200 cm. The concepts of components are described in the National Soil Survey Handbook (Part 627.034). This example is limited to one mapunit, mukey = 2809839. The information needed for further SOC stock calculations, individual layer information, is selected from each component.

**Component variables used in SOC stock calculation** (r denotes that the value is representative of the central tendency): \* comppct\_r = the composition of each map unit, reported as the proportion (%) of the map unit made up of that soil component as part of the map unit documentation process (NSSH, 2017; Part 627.08).

### Component Level Data and Mapunit Sum-of-comppct\_r (major components only)

CREATE TABLE #M4

( aoiid INT,

landunit CHAR(20),

mukey INT,

mapunit\_acres FLOAT,

cokey INT,

compname CHAR(60),

comppct\_r INT,

majcompflag CHAR(3),

mu\_pct\_sum INT,

major\_mu\_pct\_sum INT,

drainagecl CHAR(254)

);

---Populate component level data with cokey, comppct\_r and mapunit sum-of-comppct\_r

INSERT INTO #M4

SELECT M2.aoiid, M2.landunit, M2.mukey, mapunit\_acres, CO.cokey, CO.compname, CO.comppct\_r, CO.majcompflag, (SELECT SUM (CCO.comppct\_r)

FROM #M2 AS MM2

INNER JOIN component AS CCO ON CCO.mukey=MM2.mukey AND M2.mukey=MM2.mukey AND majcompflag = 'Yes' ) AS major\_mu\_pct\_sum,

SUM (CO.comppct\_r) OVER(PARTITION BY M2.landunit, M2.mukey) AS mu\_pct\_sum, drainagecl

FROM #M2 AS M2

INNER JOIN component AS CO ON CO.mukey = M2.mukey

| **aoiid** | **landunit** | **mukey** | **mapunit\_acres** | **cokey** | **compname** | **comppct\_r** | **majcompflag** | **mu\_pct\_sum** | **major\_mu\_pct\_sum** | **drainagecl** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | T9981 Fld3 | 354627 | 0.426 | 16464493 | Slickspots | 2 | No | 90 | 100 | Well drained |
| 1 | T9981 Fld3 | 354627 | 0.426 | 16464494 | Daglum | 25 | Yes | 90 | 100 | Well drained |
| 1 | T9981 Fld3 | 354627 | 0.426 | 16464495 | Farnuf | 65 | Yes | 90 | 100 | Well drained |
| 1 | T9981 Fld3 | 354627 | 0.426 | 16464496 | Grail | 3 | No | 90 | 100 | Moderately well drained |
| 1 | T9981 Fld3 | 354627 | 0.426 | 16464497 | Rhoades | 3 | No | 90 | 100 | Well drained |
| 1 | T9981 Fld3 | 354627 | 0.426 | 16464498 | Tally | 2 | No | 90 | 100 | Well drained |
| 1 | T9981 Fld3 | 354648 | 0.287 | 16464607 | Amor | 25 | Yes | 85 | 100 | Well drained |
| 1 | T9981 Fld3 | 354648 | 0.287 | 16464608 | Arnegard | 4 | No | 85 | 100 | Moderately well drained |
| 1 | T9981 Fld3 | 354648 | 0.287 | 16464609 | Belfield | 4 | No | 85 | 100 | Well drained |
| 1 | T9981 Fld3 | 354648 | 0.287 | 16464610 | Heil | 1 | No | 85 | 100 | Poorly drained |
| 1 | T9981 Fld3 | 354648 | 0.287 | 16464611 | Lantry | 3 | No | 85 | 100 | Well drained |
| 1 | T9981 Fld3 | 354648 | 0.287 | 16464612 | Reeder | 60 | Yes | 85 | 100 | Well drained |
| 1 | T9981 Fld3 | 354648 | 0.287 | 16464613 | Vebar | 3 | No | 85 | 100 | Well drained |
| 1 | T9981 Fld3 | 2494708 | 1.729 | 16663928 | Regent | 5 | No | 81 | 100 | Well drained |
| 1 | T9981 Fld3 | 2494708 | 1.729 | 16663929 | Chama | 5 | No | 81 | 100 | Well drained |
| 1 | T9981 Fld3 | 2494708 | 1.729 | 16663930 | Amor | 49 | Yes | 81 | 100 | Well drained |
| 1 | T9981 Fld3 | 2494708 | 1.729 | 16663931 | Cabba | 32 | Yes | 81 | 100 | Well drained |
| 1 | T9981 Fld3 | 2494708 | 1.729 | 16663932 | Shambo | 9 | No | 81 | 100 | Well drained |
| 1 | T9981 Fld3 | 2525720 | 56.699 | 16663899 | Daglum | 33 | Yes | 176 | 100 | Moderately well drained |
| 1 | T9981 Fld3 | 2525720 | 56.699 | 16663900 | Savage | 3 | No | 176 | 100 | Well drained |
| 1 | T9981 Fld3 | 2525720 | 56.699 | 16663901 | Barkof | 2 | No | 176 | 100 | Well drained |
| 1 | T9981 Fld3 | 2525720 | 56.699 | 16663902 | Rhoades | 2 | No | 176 | 100 | Moderately well drained |
| 1 | T9981 Fld3 | 2525720 | 56.699 | 16663903 | Rhoades | 55 | Yes | 176 | 100 | Moderately well drained |
| 1 | T9981 Fld3 | 2525720 | 56.699 | 16663904 | Belfield | 5 | No | 176 | 100 | Moderately well drained |
| 1 | T9981 Fld3 | 2525732 | 1.35 | 16663795 | Lakota | 4 | No | 72 | 100 | Well drained |
| 1 | T9981 Fld3 | 2525732 | 1.35 | 16663796 | Ekalaka | 55 | Yes | 72 | 100 | Well drained |
| 1 | T9981 Fld3 | 2525732 | 1.35 | 16663797 | Yegen | 17 | Yes | 72 | 100 | Well drained |
| 1 | T9981 Fld3 | 2525732 | 1.35 | 16663798 | Desart | 14 | No | 72 | 100 | Well drained |
| 1 | T9981 Fld3 | 2525732 | 1.35 | 16663799 | Parshall | 6 | No | 72 | 100 | Well drained |
| 1 | T9981 Fld3 | 2525732 | 1.35 | 16663800 | Rhoades | 2 | No | 72 | 100 | Moderately well drained |
| 1 | T9981 Fld3 | 2525732 | 1.35 | 16663801 | Vebar | 2 | No | 72 | 100 | Well drained |
| 1 | T9981 Fld3 | 2525733 | 0.129 | 16663950 | Beisigl | 7 | No | 75 | 100 | Somewhat excessively drained |
| 1 | T9981 Fld3 | 2525733 | 0.129 | 16663951 | Vebar | 50 | Yes | 75 | 100 | Well drained |
| 1 | T9981 Fld3 | 2525733 | 0.129 | 16663952 | Cohagen | 25 | Yes | 75 | 100 | Well drained |
| 1 | T9981 Fld3 | 2525733 | 0.129 | 16663953 | Tally | 14 | No | 75 | 100 | Well drained |
| 1 | T9981 Fld3 | 2525733 | 0.129 | 16663954 | Amor | 2 | No | 75 | 100 | Well drained |
| 1 | T9981 Fld3 | 2525733 | 0.129 | 16663955 | Arnegard | 2 | No | 75 | 100 | Well drained |
| 1 | T9981 Fld3 | 2525739 | 28.479 | 16663915 | Parshall | 20 | Yes | 78 | 100 | Well drained |
| 1 | T9981 Fld3 | 2525739 | 28.479 | 16663916 | Tally | 12 | No | 78 | 100 | Well drained |
| 1 | T9981 Fld3 | 2525739 | 28.479 | 16663917 | Vebar | 58 | Yes | 78 | 100 | Well drained |
| 1 | T9981 Fld3 | 2525739 | 28.479 | 16663918 | Arnegard | 8 | No | 78 | 100 | Well drained |
| 1 | T9981 Fld3 | 2525739 | 28.479 | 16663919 | Cohagen | 2 | No | 78 | 100 | Well drained |
| 1 | T9981 Fld3 | 2525745 | 4.983 | 16663920 | Farnuf | 12 | No | 150 | 100 | Well drained |
| 1 | T9981 Fld3 | 2525745 | 4.983 | 16663921 | Shambo | 75 | Yes | 150 | 100 | Well drained |
| 1 | T9981 Fld3 | 2525745 | 4.983 | 16663922 | Arnegard | 10 | No | 150 | 100 | Well drained |
| 1 | T9981 Fld3 | 2525745 | 4.983 | 16663923 | Amor | 3 | No | 150 | 100 | Well drained |
| 1 | T9981 Fld3 | 2525746 | 16.106 | 16663924 | Arnegard | 10 | No | 156 | 100 | Well drained |
| 1 | T9981 Fld3 | 2525746 | 16.106 | 16663925 | Farnuf | 8 | No | 156 | 100 | Well drained |
| 1 | T9981 Fld3 | 2525746 | 16.106 | 16663926 | Amor | 4 | No | 156 | 100 | Well drained |
| 1 | T9981 Fld3 | 2525746 | 16.106 | 16663927 | Shambo | 78 | Yes | 156 | 100 | Well drained |
| 1 | T9981 Fld3 | 2525754 | 12.638 | 16663598 | Heil | 3 | No | 150 | 100 | Poorly drained |
| 1 | T9981 Fld3 | 2525754 | 12.638 | 16663599 | Rhoades | 4 | No | 150 | 100 | Moderately well drained |
| 1 | T9981 Fld3 | 2525754 | 12.638 | 16663600 | Daglum | 2 | No | 150 | 100 | Moderately well drained |
| 1 | T9981 Fld3 | 2525754 | 12.638 | 16663601 | Vanda | 5 | No | 150 | 100 | Well drained |
| 1 | T9981 Fld3 | 2525754 | 12.638 | 16663602 | Harriet | 75 | Yes | 150 | 100 | Poorly drained |
| 1 | T9981 Fld3 | 2525754 | 12.638 | 16663603 | Regan | 6 | No | 150 | 100 | Poorly drained |
| 1 | T9981 Fld3 | 2525754 | 12.638 | 16663604 | Glenross | 5 | No | 150 | 100 | Poorly drained |
| 1 | T9981 Fld3 | 2525764 | 17.691 | 16663605 | Peta | 2 | No | 55 | 100 | Somewhat poorly drained |
| 1 | T9981 Fld3 | 2525764 | 17.691 | 16663606 | Dimmick | 6 | No | 55 | 100 | Very poorly drained |
| 1 | T9981 Fld3 | 2525764 | 17.691 | 16663607 | Arveson | 12 | No | 55 | 100 | Poorly drained |
| 1 | T9981 Fld3 | 2525764 | 17.691 | 16663608 | Regan | 10 | No | 55 | 100 | Poorly drained |
| 1 | T9981 Fld3 | 2525764 | 17.691 | 16663609 | Harriet | 7 | No | 55 | 100 | Poorly drained |
| 1 | T9981 Fld3 | 2525764 | 17.691 | 16663610 | Straw | 3 | No | 55 | 100 | Well drained |
| 1 | T9981 Fld3 | 2525764 | 17.691 | 16663611 | Regan | 55 | Yes | 55 | 100 | Poorly drained |
| 1 | T9981 Fld3 | 2525764 | 17.691 | 16663612 | Marysland | 5 | No | 55 | 100 | Poorly drained |
| 1 | T9981 Fld3 | 2525766 | 0.032 | 16663539 | Water | 100 | Yes | 100 | 100 | NULL |
| 1 | T9981 Fld3 | 2525769 | 181.356 | 16663985 | Belfield | 48 | Yes | 176 | 100 | Moderately well drained |
| 1 | T9981 Fld3 | 2525769 | 181.356 | 16663986 | Grail | 5 | No | 176 | 100 | Moderately well drained |
| 1 | T9981 Fld3 | 2525769 | 181.356 | 16663987 | Daglum | 40 | Yes | 176 | 100 | Moderately well drained |
| 1 | T9981 Fld3 | 2525769 | 181.356 | 16663988 | Savage | 5 | No | 176 | 100 | Well drained |
| 1 | T9981 Fld3 | 2525769 | 181.356 | 16663989 | Rhoades | 2 | No | 176 | 100 | Moderately well drained |
| 1 | T9981 Fld3 | 2755648 | 2.449 | 16663766 | Reeder | 58 | Yes | 156 | 100 | Well drained |
| 1 | T9981 Fld3 | 2755648 | 2.449 | 16663767 | Janesburg | 20 | Yes | 156 | 100 | Well drained |
| 1 | T9981 Fld3 | 2755648 | 2.449 | 16663768 | Amor | 10 | No | 156 | 100 | Well drained |
| 1 | T9981 Fld3 | 2755648 | 2.449 | 16663769 | Dogtooth | 5 | No | 156 | 100 | Well drained |
| 1 | T9981 Fld3 | 2755648 | 2.449 | 16663770 | Regent | 3 | No | 156 | 100 | Well drained |
| 1 | T9981 Fld3 | 2755648 | 2.449 | 16663771 | Belfield | 2 | No | 156 | 100 | Moderately well drained |
| 1 | T9981 Fld3 | 2755648 | 2.449 | 16663772 | Barkof | 2 | No | 156 | 100 | Well drained |
| 1 | T9981 Fld3 | 2755654 | 4.599 | 16663846 | Reeder | 60 | Yes | 85 | 100 | Well drained |
| 1 | T9981 Fld3 | 2755654 | 4.599 | 16663847 | Amor | 25 | Yes | 85 | 100 | Well drained |
| 1 | T9981 Fld3 | 2755654 | 4.599 | 16663848 | Belfield | 4 | No | 85 | 100 | Moderately well drained |
| 1 | T9981 Fld3 | 2755654 | 4.599 | 16663849 | Regent | 3 | No | 85 | 100 | Well drained |
| 1 | T9981 Fld3 | 2755654 | 4.599 | 16663850 | Vebar | 3 | No | 85 | 100 | Well drained |
| 1 | T9981 Fld3 | 2755654 | 4.599 | 16663851 | Chama | 3 | No | 85 | 100 | Well drained |
| 1 | T9981 Fld3 | 2755654 | 4.599 | 16663852 | Arnegard | 2 | No | 85 | 100 | Well drained |
| 2 | T9981 Fld4 | 2525720 | 8.623 | 16663899 | Daglum | 33 | Yes | 176 | 100 | Moderately well drained |
| 2 | T9981 Fld4 | 2525720 | 8.623 | 16663900 | Savage | 3 | No | 176 | 100 | Well drained |
| 2 | T9981 Fld4 | 2525720 | 8.623 | 16663901 | Barkof | 2 | No | 176 | 100 | Well drained |
| 2 | T9981 Fld4 | 2525720 | 8.623 | 16663902 | Rhoades | 2 | No | 176 | 100 | Moderately well drained |
| 2 | T9981 Fld4 | 2525720 | 8.623 | 16663903 | Rhoades | 55 | Yes | 176 | 100 | Moderately well drained |
| 2 | T9981 Fld4 | 2525720 | 8.623 | 16663904 | Belfield | 5 | No | 176 | 100 | Moderately well drained |
| 2 | T9981 Fld4 | 2525724 | 0.458 | 16664017 | Savage | 30 | Yes | 85 | 100 | Well drained |
| 2 | T9981 Fld4 | 2525724 | 0.458 | 16664018 | Daglum | 20 | Yes | 85 | 100 | Moderately well drained |
| 2 | T9981 Fld4 | 2525724 | 0.458 | 16664019 | Grail | 8 | No | 85 | 100 | Moderately well drained |
| 2 | T9981 Fld4 | 2525724 | 0.458 | 16664020 | Regent | 5 | No | 85 | 100 | Well drained |
| 2 | T9981 Fld4 | 2525724 | 0.458 | 16664021 | Rhoades | 2 | No | 85 | 100 | Moderately well drained |
| 2 | T9981 Fld4 | 2525724 | 0.458 | 16664022 | Belfield | 35 | Yes | 85 | 100 | Moderately well drained |
| 2 | T9981 Fld4 | 2525730 | 31.514 | 16663990 | Daglum | 2 | No | 85 | 100 | Moderately well drained |
| 2 | T9981 Fld4 | 2525730 | 31.514 | 16663991 | Regent | 68 | Yes | 85 | 100 | Well drained |
| 2 | T9981 Fld4 | 2525730 | 31.514 | 16663992 | Savage | 17 | Yes | 85 | 100 | Well drained |
| 2 | T9981 Fld4 | 2525730 | 31.514 | 16663993 | Cabba | 2 | No | 85 | 100 | Well drained |
| 2 | T9981 Fld4 | 2525730 | 31.514 | 16663994 | Grail | 6 | No | 85 | 100 | Moderately well drained |
| 2 | T9981 Fld4 | 2525730 | 31.514 | 16663995 | Moreau | 5 | No | 85 | 100 | Well drained |
| 2 | T9981 Fld4 | 2525745 | 62.205 | 16663920 | Farnuf | 12 | No | 150 | 100 | Well drained |
| 2 | T9981 Fld4 | 2525745 | 62.205 | 16663921 | Shambo | 75 | Yes | 150 | 100 | Well drained |
| 2 | T9981 Fld4 | 2525745 | 62.205 | 16663922 | Arnegard | 10 | No | 150 | 100 | Well drained |
| 2 | T9981 Fld4 | 2525745 | 62.205 | 16663923 | Amor | 3 | No | 150 | 100 | Well drained |
| 2 | T9981 Fld4 | 2525746 | 63.55 | 16663924 | Arnegard | 10 | No | 156 | 100 | Well drained |
| 2 | T9981 Fld4 | 2525746 | 63.55 | 16663925 | Farnuf | 8 | No | 156 | 100 | Well drained |
| 2 | T9981 Fld4 | 2525746 | 63.55 | 16663926 | Amor | 4 | No | 156 | 100 | Well drained |
| 2 | T9981 Fld4 | 2525746 | 63.55 | 16663927 | Shambo | 78 | Yes | 156 | 100 | Well drained |
| 2 | T9981 Fld4 | 2525754 | 23.138 | 16663598 | Heil | 3 | No | 150 | 100 | Poorly drained |
| 2 | T9981 Fld4 | 2525754 | 23.138 | 16663599 | Rhoades | 4 | No | 150 | 100 | Moderately well drained |
| 2 | T9981 Fld4 | 2525754 | 23.138 | 16663600 | Daglum | 2 | No | 150 | 100 | Moderately well drained |
| 2 | T9981 Fld4 | 2525754 | 23.138 | 16663601 | Vanda | 5 | No | 150 | 100 | Well drained |
| 2 | T9981 Fld4 | 2525754 | 23.138 | 16663602 | Harriet | 75 | Yes | 150 | 100 | Poorly drained |
| 2 | T9981 Fld4 | 2525754 | 23.138 | 16663603 | Regan | 6 | No | 150 | 100 | Poorly drained |
| 2 | T9981 Fld4 | 2525754 | 23.138 | 16663604 | Glenross | 5 | No | 150 | 100 | Poorly drained |
| 2 | T9981 Fld4 | 2525767 | 3.86 | 16663540 | Water | 100 | Yes | 100 | 100 | NULL |
| 2 | T9981 Fld4 | 2525769 | 103.909 | 16663985 | Belfield | 48 | Yes | 176 | 100 | Moderately well drained |
| 2 | T9981 Fld4 | 2525769 | 103.909 | 16663986 | Grail | 5 | No | 176 | 100 | Moderately well drained |
| 2 | T9981 Fld4 | 2525769 | 103.909 | 16663987 | Daglum | 40 | Yes | 176 | 100 | Moderately well drained |
| 2 | T9981 Fld4 | 2525769 | 103.909 | 16663988 | Savage | 5 | No | 176 | 100 | Well drained |
| 2 | T9981 Fld4 | 2525769 | 103.909 | 16663989 | Rhoades | 2 | No | 176 | 100 | Moderately well drained |
| 2 | T9981 Fld4 | 2755639 | 0.443 | 16663552 | Regent | 3 | No | 80 | 100 | Well drained |
| 2 | T9981 Fld4 | 2755639 | 0.443 | 16663553 | Lawther | 2 | No | 80 | 100 | Well drained |
| 2 | T9981 Fld4 | 2755639 | 0.443 | 16663554 | Savage | 62 | Yes | 80 | 100 | Well drained |
| 2 | T9981 Fld4 | 2755639 | 0.443 | 16663555 | Grail | 18 | Yes | 80 | 100 | Moderately well drained |
| 2 | T9981 Fld4 | 2755639 | 0.443 | 16663556 | Belfield | 8 | No | 80 | 100 | Moderately well drained |
| 2 | T9981 Fld4 | 2755639 | 0.443 | 16663557 | Daglum | 2 | No | 80 | 100 | Moderately well drained |
| 2 | T9981 Fld4 | 2755639 | 0.443 | 16663558 | Farland | 5 | No | 80 | 100 | Well drained |
| 2 | T9981 Fld4 | 2755643 | 9.641 | 16663956 | Telfer | 3 | No | 88 | 100 | Somewhat excessively drained |
| 2 | T9981 Fld4 | 2755643 | 9.641 | 16663957 | Flasher | 30 | Yes | 88 | 100 | Somewhat excessively drained |
| 2 | T9981 Fld4 | 2755643 | 9.641 | 16663958 | Vebar | 40 | Yes | 88 | 100 | Well drained |
| 2 | T9981 Fld4 | 2755643 | 9.641 | 16663959 | Tally | 18 | Yes | 88 | 100 | Well drained |
| 2 | T9981 Fld4 | 2755643 | 9.641 | 16663960 | Parshall | 5 | No | 88 | 100 | Well drained |
| 2 | T9981 Fld4 | 2755643 | 9.641 | 16663961 | Amor | 4 | No | 88 | 100 | Well drained |
| 2 | T9981 Fld4 | 2755648 | 11.382 | 16663766 | Reeder | 58 | Yes | 156 | 100 | Well drained |
| 2 | T9981 Fld4 | 2755648 | 11.382 | 16663767 | Janesburg | 20 | Yes | 156 | 100 | Well drained |
| 2 | T9981 Fld4 | 2755648 | 11.382 | 16663768 | Amor | 10 | No | 156 | 100 | Well drained |
| 2 | T9981 Fld4 | 2755648 | 11.382 | 16663769 | Dogtooth | 5 | No | 156 | 100 | Well drained |
| 2 | T9981 Fld4 | 2755648 | 11.382 | 16663770 | Regent | 3 | No | 156 | 100 | Well drained |
| 2 | T9981 Fld4 | 2755648 | 11.382 | 16663771 | Belfield | 2 | No | 156 | 100 | Moderately well drained |
| 2 | T9981 Fld4 | 2755648 | 11.382 | 16663772 | Barkof | 2 | No | 156 | 100 | Well drained |

### Hydric Soils at the Map Unit, Using All Map Units From Table #M2.

-- Hydric soils at the Map Unit, using all map units from table #M2.

CREATE TABLE #Hydric1

(mukey INT,

comp\_count INT, -- cnt\_comp

count\_maj\_comp INT, -- cnt\_mjr

all\_hydric INT, -- cnt\_hydric

all\_not\_hydric INT, -- cnt\_nonhydric

maj\_hydric INT, -- cnt\_mjr\_hydric

maj\_not\_hydric INT, -- cnt\_mjr\_nonhydric

hydric\_inclusions INT, -- cnt\_minor\_hydric

hydric\_null INT); -- cnt\_null\_hydric

INSERT INTO #Hydric1 (mukey, comp\_count, count\_maj\_comp, all\_hydric, all\_not\_hydric, maj\_hydric, maj\_not\_hydric, hydric\_inclusions, hydric\_null)

SELECT DISTINCT M4.mukey,

(SELECT TOP 1 COUNT(\*)

FROM mapunit

INNER JOIN component ON component.mukey = mapunit.mukey AND mapunit.mukey = M4.mukey) AS comp\_count,

(SELECT TOP 1 COUNT(\*)

FROM mapunit

INNER JOIN component ON component.mukey = mapunit.mukey AND mapunit.mukey = M4.mukey

AND majcompflag = 'yes') AS count\_maj\_comp,

(SELECT TOP 1 COUNT(\*)

FROM mapunit

INNER JOIN component ON component.mukey = mapunit.mukey AND mapunit.mukey = M4.mukey

AND hydricrating = 'yes' ) AS all\_hydric,

(SELECT TOP 1 COUNT(\*)

FROM mapunit

INNER JOIN component ON component.mukey = mapunit.mukey AND mapunit.mukey = M4.mukey

AND hydricrating != 'yes') AS all\_not\_hydric,

(SELECT TOP 1 COUNT(\*)

FROM mapunit

INNER JOIN component ON component.mukey = mapunit.mukey AND mapunit.mukey = M4.mukey

AND majcompflag = 'yes' AND hydricrating = 'yes') AS maj\_hydric,

(SELECT TOP 1 COUNT(\*)

FROM mapunit

INNER JOIN component ON component.mukey = mapunit.mukey AND mapunit.mukey = M4.mukey

AND majcompflag = 'yes' AND hydricrating != 'yes') AS maj\_not\_hydric,

(SELECT TOP 1 COUNT(\*)

FROM mapunit

INNER JOIN component ON component.mukey = mapunit.mukey AND mapunit.mukey = M4.mukey

AND majcompflag != 'yes' AND hydricrating = 'yes' ) AS hydric\_inclusions,

(SELECT TOP 1 COUNT(\*)

FROM mapunit

INNER JOIN component ON component.mukey = mapunit.mukey AND mapunit.mukey = M4.mukey

AND hydricrating IS NULL ) AS hydric\_null

FROM #M4 AS M4;

#### Get counts for major-minor components and different hydric ratings (Yes, No, NULL)

* mukey,
* total number of components,
* number of major components,
* total number of hydric components,
* number of major hydric components,
* number of major non-hydric components,
* number of minor hydric components,
* total number of non-hydric components,
* number of components where hydric is null

| **mukey** | **comp\_count** | **count\_maj\_comp** | **all\_hydric** | **all\_not\_hydric** | **maj\_hydric** | **maj\_not\_hydric** | **hydric\_inclusions** | **hydric\_null** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 354627 | 6 | 2 | 0 | 6 | 0 | 2 | 0 | 0 |
| 354648 | 7 | 2 | 1 | 6 | 0 | 2 | 1 | 0 |
| 2494708 | 5 | 2 | 0 | 5 | 0 | 2 | 0 | 0 |
| 2525720 | 6 | 2 | 0 | 6 | 0 | 2 | 0 | 0 |
| 2525724 | 6 | 3 | 0 | 6 | 0 | 3 | 0 | 0 |
| 2525730 | 6 | 2 | 0 | 6 | 0 | 2 | 0 | 0 |
| 2525732 | 7 | 2 | 0 | 7 | 0 | 2 | 0 | 0 |
| 2525733 | 6 | 2 | 0 | 6 | 0 | 2 | 0 | 0 |
| 2525739 | 5 | 2 | 0 | 5 | 0 | 2 | 0 | 0 |
| 2525745 | 4 | 1 | 0 | 4 | 0 | 1 | 0 | 0 |
| 2525746 | 4 | 1 | 0 | 4 | 0 | 1 | 0 | 0 |
| 2525754 | 7 | 1 | 4 | 3 | 1 | 0 | 3 | 0 |
| 2525764 | 8 | 1 | 6 | 2 | 1 | 0 | 5 | 0 |
| 2525766 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 |
| 2525767 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 |
| 2525769 | 5 | 2 | 0 | 5 | 0 | 2 | 0 | 0 |
| 2755639 | 7 | 2 | 0 | 7 | 0 | 2 | 0 | 0 |
| 2755643 | 6 | 3 | 0 | 6 | 0 | 3 | 0 | 0 |
| 2755648 | 7 | 2 | 0 | 7 | 0 | 2 | 0 | 0 |
| 2755654 | 7 | 2 | 0 | 7 | 0 | 2 | 0 | 0 |

### Convert the hydric component count to a value acreage

INSERT INTO #Hydric2 (mukey, hydric\_rating, low\_pct, rv\_pct, high\_pct)

SELECT

mukey,

CASE WHEN comp\_count = all\_not\_hydric + hydric\_null THEN 'Nonhydric'

WHEN comp\_count = all\_hydric THEN 'Hydric'

WHEN comp\_count != all\_hydric AND count\_maj\_comp = maj\_hydric THEN 'Predominantly hydric'

WHEN hydric\_inclusions >= 0.5 AND maj\_hydric < 0.5 THEN 'Predominantly nonydric'

WHEN maj\_not\_hydric >= 0.5 AND maj\_hydric >= 0.5 THEN 'Partially hydric'

ELSE 'Error'

END AS hydric\_rating,

CASE WHEN comp\_count = all\_not\_hydric + hydric\_null THEN 0.00 --'Nonhydric'

WHEN comp\_count = all\_hydric THEN 1 --'Hydric'

WHEN comp\_count != all\_hydric AND count\_maj\_comp = maj\_hydric THEN 0.80 --'Predominantly hydric'

WHEN hydric\_inclusions >= 0.5 AND maj\_hydric < 0.5 THEN 0.01 --'Predominantly nonydric'

WHEN maj\_not\_hydric >= 0.5 AND maj\_hydric >= 0.5 THEN 0.15 --'Partially hydric'

ELSE 0.00 --'Error'

END AS low\_pct,

CASE WHEN comp\_count = all\_not\_hydric + hydric\_null THEN 0.00 --'Nonhydric'

WHEN comp\_count = all\_hydric THEN 1 --'Hydric'

WHEN comp\_count != all\_hydric AND count\_maj\_comp = maj\_hydric THEN 0.85 --'Predominantly hydric'

WHEN hydric\_inclusions >= 0.5 AND maj\_hydric < 0.5 THEN 0.05 --'Predominantly nonydric'

WHEN maj\_not\_hydric >= 0.5 AND maj\_hydric >= 0.5 THEN 0.50 --'Partially hydric'

ELSE 0.00 --'Error'

END AS rv\_pct,

CASE WHEN comp\_count = all\_not\_hydric + hydric\_null THEN 0.00 --'Nonhydric'

WHEN comp\_count = all\_hydric THEN 1 --'Hydric'

WHEN comp\_count != all\_hydric AND count\_maj\_comp = maj\_hydric THEN 0.99 --'Predominantly hydric'

WHEN hydric\_inclusions >= 0.5 AND maj\_hydric < 0.5 THEN 0.20 --'Predominantly nonydric'

WHEN maj\_not\_hydric >= 0.5 AND maj\_hydric >= 0.5 THEN 0.79 --'Partially hydric'

ELSE 0.00 --'Error'

END AS high\_pct

FROM #Hydric1;

* Takes hydric count statistics and converts them to interpretation-type rating classes (hydric\_rating).
* Also assigns fuzzy-type values as percent ratings. These will be used later in a calculation involving mapunit acres.
* If a hydric rating of “Error” or rating number of 0.0 is returned, there is an error that needs to be checked.

| **mukey** | **hydric\_rating** | **low\_pct** | **rv\_pct** | **high\_pct** |
| --- | --- | --- | --- | --- |
| 354627 | Nonhydric | 0 | 0 | 0 |
| 354648 | Predominantly nonydric | 0.01 | 0.05 | 0.2 |
| 2494708 | Nonhydric | 0 | 0 | 0 |
| 2525720 | Nonhydric | 0 | 0 | 0 |
| 2525724 | Nonhydric | 0 | 0 | 0 |
| 2525730 | Nonhydric | 0 | 0 | 0 |
| 2525732 | Nonhydric | 0 | 0 | 0 |
| 2525733 | Nonhydric | 0 | 0 | 0 |
| 2525739 | Nonhydric | 0 | 0 | 0 |
| 2525745 | Nonhydric | 0 | 0 | 0 |
| 2525746 | Nonhydric | 0 | 0 | 0 |
| 2525754 | Predominantly hydric | 0.8 | 0.85 | 0.99 |
| 2525764 | Predominantly hydric | 0.8 | 0.85 | 0.99 |
| 2525766 | Nonhydric | 0 | 0 | 0 |
| 2525767 | Nonhydric | 0 | 0 | 0 |
| 2525769 | Nonhydric | 0 | 0 | 0 |
| 2755639 | Nonhydric | 0 | 0 | 0 |
| 2755643 | Nonhydric | 0 | 0 | 0 |
| 2755648 | Nonhydric | 0 | 0 | 0 |
| 2755654 | Nonhydric | 0 | 0 | 0 |

### Calculating the Polygon Map Acres Based on the Class Range to Get a Percentage of Each Class

INSERT INTO #Hydric3 ( aoiid, landunit, attributename, aoi\_acres, mukey, hydric\_flag, low\_acres, rv\_acres, high\_acres)

SELECT DISTINCT aoiid,

landunit,

'Hydric Soils' AS attributename,

ROUND (SUM (mapunit\_acres ) OVER(PARTITION BY aoiid), 2) AS aoi\_acres,

H3.mukey,

CASE WHEN hydric\_rating = 'Nonhydric' THEN 0 ELSE 1 END AS hydric\_flag,

mapunit\_acres \* low\_pct AS low\_acres,

mapunit\_acres \* rv\_pct AS rv\_acres ,

mapunit\_acres \* high\_pct AS high\_acres

FROM #Hydric2 AS H3

INNER JOIN #M2 AS MH2 ON MH2.mukey = H3.mukey

GROUP BY aoiid, landunit, H3.mukey, mapunit\_acres, hydric\_rating, low\_pct, rv\_pct, high\_pct

| **aoiid** | **landunit** | **attributename** | **AOI\_Acres** | **rating** | **rating\_key** | **mukey** | **hydric\_flag** | **low\_acres** | **rv\_acres** | **high\_acres** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | T9981 Fld3 | Hydric Soils | 328.95 | NULL | NULL | 354627 | 0 | 0 | 0 | 0 |
| 1 | T9981 Fld3 | Hydric Soils | 328.95 | NULL | NULL | 354648 | 1 | 0.00287 | 0.01435 | 0.0574 |
| 1 | T9981 Fld3 | Hydric Soils | 328.95 | NULL | NULL | 2494708 | 0 | 0 | 0 | 0 |
| 1 | T9981 Fld3 | Hydric Soils | 328.95 | NULL | NULL | 2525720 | 0 | 0 | 0 | 0 |
| 1 | T9981 Fld3 | Hydric Soils | 328.95 | NULL | NULL | 2525732 | 0 | 0 | 0 | 0 |
| 1 | T9981 Fld3 | Hydric Soils | 328.95 | NULL | NULL | 2525733 | 0 | 0 | 0 | 0 |
| 1 | T9981 Fld3 | Hydric Soils | 328.95 | NULL | NULL | 2525739 | 0 | 0 | 0 | 0 |
| 1 | T9981 Fld3 | Hydric Soils | 328.95 | NULL | NULL | 2525745 | 0 | 0 | 0 | 0 |
| 1 | T9981 Fld3 | Hydric Soils | 328.95 | NULL | NULL | 2525746 | 0 | 0 | 0 | 0 |
| 1 | T9981 Fld3 | Hydric Soils | 328.95 | NULL | NULL | 2525754 | 1 | 10.1104 | 10.7423 | 12.51162 |
| 1 | T9981 Fld3 | Hydric Soils | 328.95 | NULL | NULL | 2525764 | 1 | 14.1528 | 15.03735 | 17.51409 |
| 1 | T9981 Fld3 | Hydric Soils | 328.95 | NULL | NULL | 2525766 | 0 | 0 | 0 | 0 |
| 1 | T9981 Fld3 | Hydric Soils | 328.95 | NULL | NULL | 2525769 | 0 | 0 | 0 | 0 |
| 1 | T9981 Fld3 | Hydric Soils | 328.95 | NULL | NULL | 2755648 | 0 | 0 | 0 | 0 |
| 1 | T9981 Fld3 | Hydric Soils | 328.95 | NULL | NULL | 2755654 | 0 | 0 | 0 | 0 |
| 2 | T9981 Fld4 | Hydric Soils | 318.72 | NULL | NULL | 2525720 | 0 | 0 | 0 | 0 |
| 2 | T9981 Fld4 | Hydric Soils | 318.72 | NULL | NULL | 2525724 | 0 | 0 | 0 | 0 |
| 2 | T9981 Fld4 | Hydric Soils | 318.72 | NULL | NULL | 2525730 | 0 | 0 | 0 | 0 |
| 2 | T9981 Fld4 | Hydric Soils | 318.72 | NULL | NULL | 2525745 | 0 | 0 | 0 | 0 |
| 2 | T9981 Fld4 | Hydric Soils | 318.72 | NULL | NULL | 2525746 | 0 | 0 | 0 | 0 |
| 2 | T9981 Fld4 | Hydric Soils | 318.72 | NULL | NULL | 2525754 | 1 | 18.5104 | 19.6673 | 22.90662 |
| 2 | T9981 Fld4 | Hydric Soils | 318.72 | NULL | NULL | 2525767 | 0 | 0 | 0 | 0 |
| 2 | T9981 Fld4 | Hydric Soils | 318.72 | NULL | NULL | 2525769 | 0 | 0 | 0 | 0 |
| 2 | T9981 Fld4 | Hydric Soils | 318.72 | NULL | NULL | 2755639 | 0 | 0 | 0 | 0 |
| 2 | T9981 Fld4 | Hydric Soils | 318.72 | NULL | NULL | 2755643 | 0 | 0 | 0 | 0 |
| 2 | T9981 Fld4 | Hydric Soils | 318.72 | NULL | NULL | 2755648 | 0 | 0 | 0 | 0 |

### Return Hydric by Land Unit

-- Return hydric by Land Unit

SELECT DISTINCT landunit,

CASE WHEN rv\_acres IS NOT NULL THEN CONCAT ('Hydric Soils' , ':' , 1)

WHEN rv\_acres = 0 THEN CONCAT ('Hydric Soils' , ':' , 0)

WHEN rv\_acres IS NULL THEN CONCAT ('Hydric Soils', ':' , 'Not Rated')

END AS rating\_key,

attributename,

ROUND (SUM (low\_acres) OVER(PARTITION BY aoiid), 2) AS aoiid\_low\_acres,

ROUND (SUM (rv\_acres) OVER(PARTITION BY aoiid), 2) AS aoiid\_rv\_acres,

ROUND (SUM (high\_acres) OVER(PARTITION BY aoiid), 2) AS aoiid\_high\_acres,

ROUND((ROUND (SUM (low\_acres) OVER(PARTITION BY aoiid), 2) / aoi\_acres) \* 100.0, 2) AS aoiid\_low\_pct,

ROUND((ROUND (SUM (rv\_acres) OVER(PARTITION BY aoiid), 2) / aoi\_acres) \* 100.0, 2) AS aoiid\_rv\_pct,

ROUND((ROUND (SUM (high\_acres) OVER(PARTITION BY aoiid), 2) / aoi\_acres) \* 100.0, 2) AS aoiid\_high\_pct

FROM #Hydric3

## Final Results Table

| **andunit** | **rating\_key** | **attributename** | **aoiid\_low\_acres** | **aoiid\_rv\_acres** | **aoiid\_high\_acres** | **aoiid\_low\_pct** | **aoiid\_rv\_pct** | **aoiid\_high\_pct** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| T9981 Fld3 | Hydric Soils:1 | Hydric Soils | 24.27 | 25.79 | 30.08 | 7.38 | 7.84 | 9.14 |
| T9981 Fld4 | Hydric Soils:1 | Hydric Soils | 18.51 | 19.67 | 22.91 | 5.81 | 6.17 | 7.19 |

## Map Results

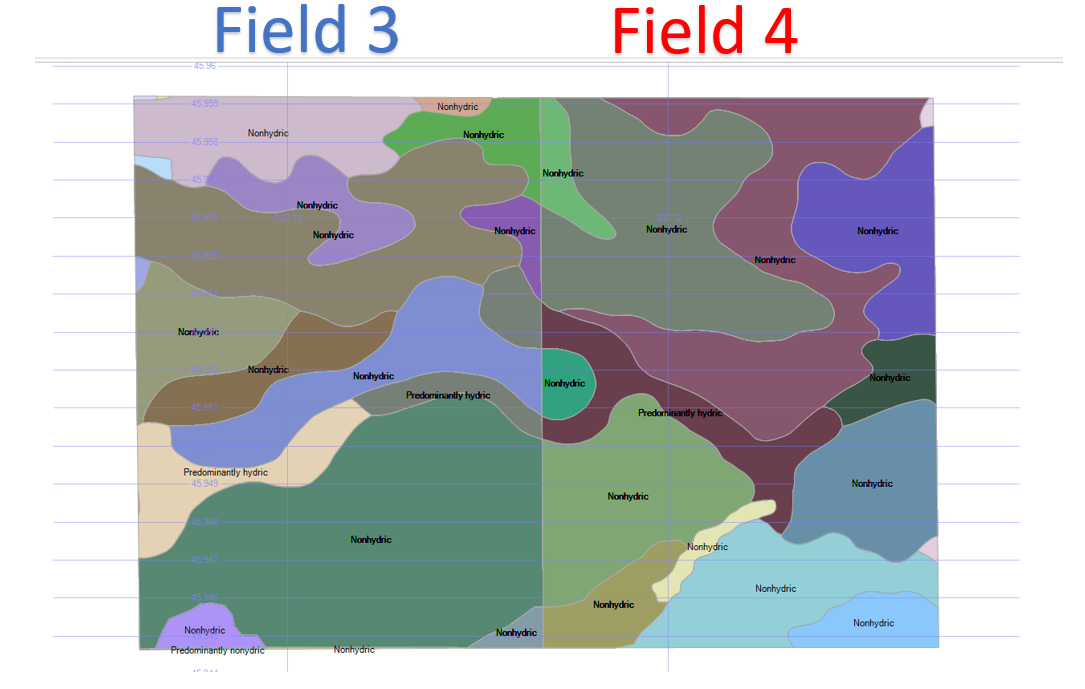


Figure 1.---Hydric rating by map unit using component count.

## The Criteria for Hydric Soils

The criteria for hydric soils are represented by codes, for example, 2 or 3. Definitions for the codes are as follows:

1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
   1. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
   2. Show evidence that the soil meets the definition of a hydric soil;
3. Soils that are frequently ponded for long or very long duration during the growing season.
   1. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
   2. Show evidence that the soil meets the definition of a hydric soil;
4. Map unit components that are frequently flooded for long duration or very long duration during the growing season that:
   1. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
   2. Show evidence that the soil meets the definition of a hydric soil;

Hydric Condition: Food Security Act information regarding the ability to grow a commodity crop without removing woody vegetation or manipulating hydrology.

## References

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